C
M38a Z8t
1928/29

MASSACHUSETTS AGRICULTURAL COLLEGE

ANNOUNCEMENT

OF THE

STOCKBRIDGE SCHOOL OF AGRICULTURE

1928 - 1929

Publication of this Document approved by the Commission on Administration and Finance

3M-7-'28. No. 2935

Stockbridge Hall and Dining Hall

THE M. A. C. BULLETIN
Amherst, Massachusetts

Volume XX JULY, 1928 Number 4

Published Eight Times a Year by the Massachusetts Agricultural College
January, February, March, May, June, September, October, November

Entered at the post office, Amherst, Mass., as second class matter

CALENDAR, 1928-1929

The Stockbridge School of Agriculture

1928

October 1, Monday ..... Freshman Registration
October 2, Tuesday ..... Senior Registration
October 3, Wednesday, 8 A. M. ..... Fall term begins
October 12, Friday ..... Holiday, Columbus Day
November 12, Monday ..... Holiday, Armistice Day
November 28-December 3, Wednesday, 12 M.—
Monday, 8 A. M. ..... Thanksgiving Recess
December 22, Saturday, 12 M. ..... Fall term ends

1929

January 2, Wednesday, 8 A. M. ..... Winter term begins
February 22, Friday ..... Holiday, Washington's Birthday
March 16, Saturday 12 M. ..... Winter term ends
March 25, Monday, 8 A. M. ..... Spring term begins
April 19, Friday ..... Holiday, Patriot's Day
May 30, Thursday ..... Holiday, Memorial Day
May 31—June 3, Friday—Monday ..... Commencement
September 30, Monday ..... Freshman Registration
October 1, Tuesday ..... Senior Registration
October 2, Wednesday, 8 A. M. ..... Fall term begins
October 12, Saturday ..... Holiday, Columbus Day
November 11, Monday ..... Holiday, Armistice Day
November 27-December 2, Wednesday 12 M.—
Monday, 8 A. M. ..... Thanksgiving Recess
December 21, Saturday, 12 M. ..... Fall term ends

1930

January 2, Thursday, 8 A. M. ..... Winter term begins

STAFF

Officers of General College Administration

ROSCOE W. THATCHER, D.Agr., LL.D.
President of the College

WILLIAM L. MACHMER, A.M.
Dean of the College

ROBERT D. HAWLEY, B.S.
Secretary of the College

FRED C. KENNEY
Treasurer of the College

BASIL B. WOOD, A.B.
Librarian of the College

ROLAND H. VERBECK, B.S.
Director of Short Courses

The Faculty of Instruction

LORIN E. BALL, B.S. ..... 3 Allen Street
Instructor in Physical Education
LUTHER BANTA, B.S. ..... Sunset Avenue
Assistant Professor of Poultry Husbandry
ROLLIN H. BARRETT, M.S. ..... 4 Chestnut Street
Assistant Professor of Farm Management
ALEXANDER E. CANCE, Ph.D. ..... 9 Fearing Street
Professor of Agricultural Economics and Head of Department
CALTON O. CARTWRIGHT, B.Voc.Agri. ..... Northampton
Instructor in Horticultural Manufactures
WALTER W. CHENOWETH, A.B., M.S. ..... North Amherst
Professor of Horticultural Manufactures and Head of Department
MILES H. CUBBON, Ph.D. ..... 12 Nutting Avenue
Assistant Professor of Agronomy
LAWRENCE S. DICKINSON, B.S. ..... 2 Farview Way
Assistant Professor of Horticulture
BROOKS D. DRAIN, B.S. ..... 17 Fearing Street
Assistant Professor of Pomology
CLAYTON L. FARRAR, B.S. ..... 120 Pleasant Street
Instructor in Entomology and Beekeeping
MARY J. FOLEY, M.S. ..... 3 South Prospect Street
Instructor in Agricultural Economics

JULIUS H. FRANDSEN, B.S.Agri., M.S. ..... 37 Lincoln Avenue
Professor of Dairying and Head of Department
ARTHUR P. FRENCH, M.S. ..... South Amherst
Instructor in Pomology
GEORGE E. GAGE, Ph.D. ..... The Davenport
Professor of Bacteriology and Physiology, Head of Department
GUY V. GLATFELTER, M.S. ..... 29 Northampton Road
Assistant Professor of Animal Husbandry
EMORY E. GRAYSON, B.S. ..... 37 Cottage Street
Supervisor of Placement Training
LAURENCE R. GROSE, A.B., M.F. ..... 45 Amity Street
Professor of Forestry and Head of Department
CHRISTIAN I. GUNNESS, B.S. ..... 105 Butterfield Terrace
Professor of Agricultural Engineering and Head of Department
MARGARET HAMLIN, B.A. ..... 12 North East Street
Agricultural Counselor of Women
CURRY S. HICKS, B.Pd. ..... Sunset Avenue
Professor of Physical Education and Hygiene and Head of Department
MRS. CURRY S. HICKS ..... Sunset Avenue
Instructor in Physical Education
SAMUEL C. HUBBARD ..... North Amherst
Assistant Professor of Floriculture
HELEN KNOWLTON, A.M. ..... 25 Fearing Street
Assistant Professor of Home Economics
JOHN B. LENTZ, A.B., V.M.D. ..... 3 Dana Street
Professor of Veterinary Science and Head of Department
HARRY G. LINDQUIST, M.S. .....66 Pleasant Street
Instructor in Dairying
MINER J. MARKUSON, B.S. ..... 1 Kendrick Place
Assistant Professor of Agricultural Engineering
MERRILL J. MACK, M.S. ..... 32 North Prospect Street
Assistant Professor of Dairying
JOHN B. NEWLON ..... North Amherst
Instructor in Agricultural Engineering
RANSOM C. PACKARD, B.S.A. ..... North Amherst
Instructor in Bacteriology
MARION PULLEY, B.S. .....
Instructor in Poultry Husbandry
GEORGE F. PUSHEE ..... North Amherst
Instructor in Agricultural Engineering
VICTOR A. RICE, M. Agri. ..... 35 Woodside Avenue
Assistant Professor of Animal Husbandry
OLIVER C. ROBERTS, B.S. ..... 10 Nutting Avenue
Instructor in Pomology
WILLIAM C. SANCTUARY, B.S. ..... 11 Cottage Street
Professor of Poultry Husbandry
FRED C. SEARS, M.S. ..... Mount Pleasant
Professor of Pomology and Head of Department
EDNA L. SKINNER, B.S. ..... 30 Fearing Street
Professor of Home Economics, Head of Department and Adviser of Women
HAROLD W. SMART, LL.B. ..... 50 Pleasant Street
Instructor in Business Law, Business English and Rural Sociology
GRANT B. SNYDER, B.S.A. ..... 50 Pleasant Street
Assistant Professor of Vegetable Gardening and Head of Department
GERALD J. STOUT, M.S. ..... Inwood
Instructor in Vegetable Gardening
CHARLES H. THAYER ..... South East Street
Instructor in Agronomy
CLARK L. THAYER, B.S. ..... Mount Pleasant
Professor of Florticulture and Head of Department
CHARLES H. THOMPSON, M.S ..... Mount Pleasant
Professor of Horticulture
CARROLL A. TOWNE, B.S. ..... 62 Pleasant Street
Instructor in Horticulture
MARION L. TUCKER, B.S. ..... 7 Nutting Avenue
Assistant Professor of Home Economics
RALPH A. VANMETER, B.S. .....North Amherst
Professor of Pomology
HUBERT W. YOUNT, M.S. ..... 39 Main Street
Assistant Professor of Agricultural Economics

Instructor in Agronomy

THE STOCKBRIDGE SCHOOL OF AGRICULTURE

A Two-Year Course in Practical Agriculture

The Stockbridge School of Agriculture was organized in 1918 to meet the demand for a short course in agriculture that might be taken by students who either did not possess college entrance requirements, or who, for one reason or another, were unable to take the four-year college course.

In May 1928, by vote of the trustees of the College, the name was changed from "The Two-Year Course in Practical Agriculture" to "The Stockbridge

School of Agriculture". This change, it is expected, will more clearly emphasize the distinction between the degree courses and the non-degree courses offered by the College, and will correct the impression that students completing this course have completed two years of the college course. Graduates of The Stockbridge School of Agriculture are not eligible for entrance in the College and their school credits are not accepted as college credits.

Since its organization, at the request of the Massachusetts Legislature, the Two-Year Course in Practical Agriculture has registered over 1,000 students. There are now over 500 graduates of the course. Practically all of these are in Massachusetts or in New England, but graduates of the course are to be found in Florida, California, and many other states of the Union. More than 200 students registered in the School during the past year.

The growth of the course and the demand for more specific vocational training made necessary a reorganization of the work in 1921. As now arranged the student may specialize in one of seven vocations,—animal husbandry, dairy manufactures, floriculture, horticulture, pomology, poultry and vegetable gardening. This specialization does not prevent his securing a general working knowledge of other subjects.

The Stockbridge School will appeal not only to young men and women, but also to men and women of mature years and practical experience who wish to know more about the business of farming or associated agricultural industries.

AGRICULTURAL PLACEMENT

The work of placing students for apprentice training is in charge of the supervisor of placement training. (1) positions are secured that will enable a student to gain practical experience in his particular vocation; (2) a student desiring placement on his home farm may arrange for such assignment if the supervisor approves. As a rule, it will be found better for a student to spend this six months away from the home farm, even though he plans to be employed on the home farm after finishing the course. This statement is based on the experience of students who have already taken the course.

If credit is to be secured for the six months' placement training the following conditions must be carefully observed: (1) the student must interview the supervisor early in his first year in order that his qualifications, the type of farming he wishes to pursue, and his general fitness may be determined; (2) no arrangement for placement training may be made by the student himself until the supervisor has been consulted; (3) students are required to complete their period of training without unnecessary absences; (4) no transfers are to be made by a student if he is to receive credit until permission has been had from the supervisor; (5) a position may not be given up by the student until the supervisor has been notified; (6) a monthly report must be furnished on the form supplied, and submitted not later than the fifth of each month during his training period; (7) a student whose grade of work is regularly poor (below a 70 rating) in the classes of his major subject will not be eligible for placement training, unless recommended by the department in charge of his major work; (8) when a student fails to complete the requirements of his placement training with a satisfactory grade, he is not allowed to take the work of the second year; (9) all male students are given a thorough physical examination by the Department of Physical Education at the beginning of the college term. Any disabilities liable to affect the student's placement work are noted, and, if of a serious nature, recommendations for corrective measures are supplied. Parents should understand that most kinds of agricultural work require a well-balanced combination of brawn and brain. No student whose physical condition is questionable will be accepted for placement training without a physician's certificate, and parent's approval.

It should be clearly understood by both employer and employee that the same energy, regularity and general conduct will be expected of the student during

his period of placement training as is expected in his work in classes and on the campus.

It should also be noted that this six months' experience is educational in its nature. Students are expected to earn and receive a reasonable wage, but the purpose of the training is the experience gained rather than the wage earned. The scale of wages may vary in different localities, but each man's ability is given very careful thought, that he may obtain a wage that is fair to him. In the event of any misunderstanding the supervisor should be immediately informed.

RULES AND REGULATIONS

Absences from Class

(1) No unexcused absences will be allowed from classes. (2) all excuses for absence shall be presented by the student in writing, and, if approved by the Director, an excuse card will be granted to be signed by the instructor. Excuse cards must be returned promptly to the office when properly signed. (3) Students presenting excuse cards covering absences are expected to make up all work missed, to the satisfaction of the instructor. (4) Absences for which no excuse card is presented shall be counted as zero in determining grades. (5) **No excuses will be accepted at the Short Course Office unless presented within two days after the student returns to classes. (6) Two tardinesses unexcused shall count as one absence. (7) Absences from classes immediately before or after a holiday are not allowed except by special permission. (8) Students failing to observe these rules are placed on probation, and may be asked to withdraw from the course if further violations occur.**

Absences from Examinations or Tests

(1) Any student who absents himself from an appointed examination without sufficient cause shall be given zero thereon. In such case he shall not be entitled to a make-up examination unless the Director so requests. A previously announced test may, at the discretion of the instructor, be regarded as a test or as an examination.

(2) Every absence taken before enrollment (the signing of the registration card by the teacher) in a class will be counted.

General Information

Instruction.—The instruction is given by the regular faculty by means of classroom teaching, laboratory exercises and practical work. The work of the classroom is supplemented by demonstration work in the laboratory, dairy room, greenhouse and stables. It is designed to offer plain, practical, direct information, and to establish the underlying reasons as well as the method employed in the various operations. The advantages of the college staff of specialists and the college plant with all its resources are thus made available to young men and women electing this course.

Entrance Conditions.—Students must be seventeen years of age or over and have completed at least an elementary school course or its equivalent. They must have completed six months' practical experience approved by the supervisor of placement training before they will be permitted to enroll for the work of the second year.

The Stockbridge School of Agriculture is not intended for students already enrolled in high schools. Such students should finish the high school course. Students enrolled in high schools who wish to take the course should bring a statement, either from the principal of the high school or from the parent or guardian, requesting enrollment.

Graduates of county schools of agriculture or of agricultural department of high schools may complete the course for a diploma in one year, if they are recommended by the Director of the school or the agricultural instructor.

Scholarship in agricultural subjects and practical experience must be satisfactory. When this is deficient, the diploma may be withheld until the placement training of six months is completed for required credits.

Credit and Diploma.—In order to obtain a diploma a student is expceted to have satisfactorily completed all of the work called for in the general course which he has selected. A total of 125 credits is required for graduation, of which twenty-five credits, or one-fifth of the total, are assigned to practical training. A student failing to meet the requirements in his six months' summer training cannot be enrolled for his second year, since he is not entitled to the diploma of the School.

A credit is given for one class hour, of either recitation or lecture, per week throughout a term of twelve weeks. Each two-hour laboratory period also counts for one credit. The course calls for a minimum of twenty credits each term, that is, four subjects meeting five times per week, either in class or laboratory. Upon the satisfactory completion of the course, the student is awarded the diploma of the School. **A diploma will not be issued to any student whose record shows a deficiency in any subject or in his placement training.**

Scholarship.—At the close of each term students receive a formal report showing the standings given in the subjects pursued by them. If a student's work is deficient in 50 per cent he may be asked to withdraw.

If a student's term mark in any subject falls below 60 per cent, or if he drops a course without the consent of the Director, he is thereby failed (F) in that subject. He shall be debarred from taking the final examination in that subject and must repeat it with the following class.

If the average of the term mark and the final examination is below 60 per cent, the student is thereby conditioned (#).

How to Enroll.—Each student is required to file with the treasurer of the college a statement, signed by the town (or city) clerk of the town (or city) from which he enrolls, stating that the parent or guardian of the student is a resident of that town. A blank for this purpose is inserted at the end of this catalogue. Upon arrival report at the office of the Director of Short Courses, located in South College, where information may be obtained in regard to board and room, schedule of classes, etc.

Student Expenses

Tuition.—A tuition fee of $20 per term is charged students, residents of Massachusetts, enrolled in the Stockbridge School of Agriculture. Students who are not residents of Massachusetts are charged a tuition fee of $60 a term. The tuition charged persons not citizens of the United States is $60 a term. **Students entering from Massachusetts are required to file with the President a statement signed by either town or city clerk, stating that the applicant's father is a legal resident of Massachusetts.**

All students entering the college for the first time in this course are charged a matriculation fee of $5, which, in event of a student leaving the institution shall, if all bills due the college are paid, be remitted, or which shall upon graduation be considered as payment for the diploma.

Laboratory Fees

The principles observed in establishing laboratory fees are the requirement that students pay for those materials actually used which cannot be supplied by the individual, and that the laboratory fees include a charge sufficient to guard against wanton waste and breakage. Fees may be established for any course without previous announcement. At present the fees charged are as follows:—

	Per Term
Agronomy S-1	$1 50
Agronomy S-2	2 00
Animal Husbandry S-1, S-5	1 50
Animal Husbandry S-4	1 00
Bacteriology S-2	5 00
Dairying S-1, S-2, S-3, S-4	3 00
Floriculture S-3, S-5	3 00
Floriculture S-6	5 00

Horticulture S-1	1 00
Horticulture S-5, S-6, S-7	1 50
Poultry S-1, S-2, S-3, S-4, S-5	2 00
Rural Engineering S-1, S-2, S-3, S-4, S-5, S-6, S-7	1 50
Vegetable Gardening S-1, S-2	1 50

Initial Charges

At the opening of the college year, before students are registered in their classes the following charges are payable at the treasurer's office.

Matriculation fee	$5 00	—
Board (at college dining hall) October 3 to December 1	61 00	$61 00
Assessment for support of Social Union	1 50	1 50
Laboratory fees	See schedule	See schedule
Student tax for support of athletics[1]	15 00	15 00
Student tax for support of non-athletic activities[1]	3 00	3 50

The necessary college expenses are estimated as follows:—Tuition: citizens of Massachusetts, $20 per term, or $40 for the first six months of class work (two terms), and $60 for the second year of nine months (three terms); total tuition charge for the two-year course, $100.

	First Year	Second Year	Total
Matriculation fee	$5 00	—	$5 00
Room in private houses	72 00	$108 00	180 00
Board at college dining hall, Required attendance for freshmen, $7.50 per week	165 00	235 00	400 00
Laundry, $.50 to $.85 a week	20 00	30 00	50 00
Laboratory fees, average	10 00	15 00	25 00
Books, stationery, and miscellaneous items	30 00	45 00	75 00
Totals	$302 00	$433 00	$735 00
Mass. student tuition	40 00	60 00	100 00
Grand total	$342 00	$493 00	$835 00

The six months' placement training between the first and second years enables a student to earn from $300 to $450 depending upon his skill and general ability, and the type of work. Of this amount $200 to $300 should be saved to apply to the expenses of the second year.

Prospective students should understand that the above estimates cover expenses which may be called strictly college expenses, and that there are other financial obligations voluntarily placed upon students which they should expect to meet. Chief among these are class assessments and taxes levied for maintenance of various organizations, such as the Social Union, Athletic Association, weekly publications, etc. Such expenses vary from $15 to $30 a year. Additional financial responsibility is also assumed by students joining clubs or entering into other social activities of the college. Besides the amount necessary for clothes and traveling, the economical student will probably spend between $400 and $500 per year.

Student Aid

Self Help.—Many students are obliged to find work of some sort to earn their way through college. It is recommended that no new student enter without having at least $250 and preferably $350 with which to pay his way until he can establish himself in some regular work. **The college does not encourage students to enter without money in the expectation of earning their way entirely.** The student will find it better either to work and accumulate money before coming to college, or to take more than two years in completing his course, or, instead, to borrow money sufficient to carry him through. No student should undertake work that interferes with his studies, and students should understand that, owing to the large number of applications for employment, no one man can receive a large amount of work at the college. A number of students find opportunities for earning money without depending upon the college to furnish them with work.

Students whose deportment or class work is not satisfactory are not likely to be continued in student labor. **Opportunities for labor for Short Course men on**

[1]While this is not essentially a college charge, the Treasurer of the college acts as collector for the student activity, and all students are expected to make the payment as indicated. The subscription price of the "Collegian" is fixed by the managers, the amount of athletic tax by vote of the student body.

the campus are limited to second-year men. Students, therefore, may find it rather difficult to obtain all the work they desire during their first year; as a matter of fact, however, any student who is capable of doing a variety of things, and who is a competent workman, usually finds little difficulty in obtaining all the work that he can do from the outset.

Rooms

Students must secure rooms approved by the college. The assignment of rooms, and the general supervision of the housing of students, is in charge of the Director of Short Courses.

Women students are expected to occupy rooms in the college dormitory and such houses or apartments as the college may provide, and board at the college dining hall. No woman student will be allowed to room in a private house without a special written permission from the Director.

General Exercises

Chapel exercises are held two mornings each week. On Wednesday an afternoon assembly is held, to which some prominent layman or professional man is invited to speak. The object of these assemblies is to bring to the students discussions of topics of present-day interest. A special chapel service on Sunday is usually held during the winter months. Students are required to attend these general exercises, although the Director is authorized to excuse from Sunday chapel any student who may object to attendance thereon because of his religious scruples. Freshmen must attend during the first term.

Student Activities

A large number of student organizations furnish opportunity to students for work and leadership.

The Massachusetts Agricultural College Social Union was established about fifteen years ago. All students become members of the Union by paying a small fee, and in the fall and winter months the Union gives a series of entertainments, free to students and faculty. The Memorial Building is the center of student activities. Offices for the various student organizations, including the Two-Year Student Council, are maintained in this building. On the first floor are located a lounging room, the Memorial Room, and the offices; in the basement, bowling alleys, pool tables, store, post office, and barber shop; and on the second floor an auditorium for meetings and dances. This building was erected by the alumni, students, faculty, and friends in honor of the fifty-one "Aggie" men who gave their lives in the World War.

The Young Men's Christian Association is active both socially and religiously. A Catholic Club has also been organized.

The Two-Year Council is composed of representatives of the first and second year classes. This body serves as general director of the conduct in classes of the Two-Year men, and represents before the faculty the interests of this group of students.

A student year-book called "The Shorthorn" is published annually by the members of the graduating class, and is usually issued in June.

In the place of fraternities the faculty have authorized social organizations called "clubs" in the Stockbridge School. There are two such organizations in the student body, the A. T. G. Club and the Kolony Klub.

Athletics.—The School has its own separate athletic progam with regular schedules in football, basketball, ice hockey, and baseball for the seniors. Freshmen are on placement training during the spring term so that only seniors are available for baseball. This work is all under the supervision and direction of the Department of Physical Education of the College and coaches are provided for all sports. Students also subscribe to the College varsity games and have attendance privileges for varsity sports on the campus. Sweaters and

insignia are awarded to Stockbridge School athletic teams. The official insignia is the letter S.

Plans are under way to secure funds for a new building to house all athletic activities of the College. Ample facilities will then be provided to carry on a very complete program of sports and recreation for Stockbridge School students.

Student Relations

The customary high standard of college men in honor, manliness, self-respect, and consideration for the rights of others constitutes the standards of student deportment.

Any student known to be guilty of dishonest conduct or practice must be reported by the instructor to the President for discipline.

The privileges of the college may be withdrawn from any student at any time if such action is deemed advisable.

It should be understood that the college, acting through its President or any administrative officer designated by him, distinctly reserves the right not only to suspend or dismiss students, but also to name conditions under which students may remain in the institution. For example, if a student is not doing creditable work he may not only be disciplined but he may be required to meet certain prescribed conditions in respect to his studies, even though under the foregoing rules his status as a student be not affected. The same provision applies equally to the matter of absences.

Similarly, also, it applies to participation in student activities. Though this will ordinarily be governed by the rules as already laid down, yet, if in the judgment of the college authorities a student is neglecting his work on account of these activities, the privilege of participating in them may be withdrawn for such time as is considered necessary. Moreover, it may be withdrawn as a punishment for misconduct.

Infirmary

The college maintains an infirmary for the care of sick or injured students. The buildings now available for this purpose are quite inadequate for the needs of the institution, and it is hoped that in the near future other buildings of this kind may be erected and the general equipment somewhat amplified. At present two small buildings, built especially for hospital purposes, are used for the infirmary.

The following statement outlines the plan followed in the management of the infirmary with respect to students:—

Management of the Infirmary

Supervision

1. The infirmary is under the *general supervision* of Professor Curry S. Hicks, who is designated as Supervisor of the Infirmary. A resident nurse is in *immediate* charge of the Infirmary.

Use of Infirmary

2. Students are urged to go to the infirmary at any time that they are in need of the services rendered by the resident nurse or by a town physician. Inasmuch as the physical director gives special attention to all student diseases, it is to be expected that the majority of the students will go to the infirmary at his suggestion. This understanding, however, should in no way deter students from going to the infirmary voluntarily at any time.

General Health

3. Students are urged to consult the physical director or the resident nurse immediately when signs of physical disorder appear. Severe attacks of cold or other forms of illness can usually be avoided if treatment is administered in the

incipient stage. The purpose of the infirmary is to help maintain the general good health of the students, as well as to furnish a suitable place for professional attention in cases of severe illness or accident.

General Fee

4. The infirmary fee will be at the rate of $2 a day, and will be charged when one or more meals are obtained at the infirmary or when the student remains at the infirmary for one or more nights. A nominal charge will be made to out-patients for miscellaneous treatment of a minor character.

Additional Expenses

5. In addition to the fee charged as specified in paragraph 4, the following additional expenses will be charged to the patient:—

(*a*) *Nurses.*—In case a special nurse is required for the proper care of an individual, the services and board of this nurse will be paid by the patient. Such a nurse will be under the general supervision of the resident nurse.

(*b*) *Professional Service.*—If a student requires medical attention by a physician, he will be required to select his physician and become responsible for fees charged by the physician.

(*c*) *Supplies.*—Special medical supplies prescribed by a physician or nurse will be charged to the patient.

(*d*) *Laundry.*—Expense for personal laundry incurred by students while in the infirmary will be charged to the individual student.

The Library

The College Library occupies the entire building formerly partly occupied by the chapel. It contains more than 81,300 bound volumes and a very large collection of pamphlets, probably twice as numerous, which are of great practical value, being monographs on the technical subjects studied in the college. These pamphlets include particularly the publications of the United States Department of Agriculture and those of the State Experiment Stations of other Agricultural colleges in this country and abroad. Among the bound volumes, works on agriculture, horticulture, botany, entomology and the various sciences connected especially with agriculture predominate, but literature, history, economics, religion, sociology and art are also well represented. More than six hundred periodicals covering technical and general subjects, and including the best farm papers, are regularly taken and both the current numbers and the back files are readily accessible.

The Library is open for readers from 8 A. M to 10 P. M. during term time and during part of Sunday. Vacation hours are somewhat shorter.

Short Course Students will find in the Library helpful material of many sorts in connection with their work, and are cordially invited to make use of this material. The librarian and library assistants are always on hand, ready and anxious to help.

Agricultural Opportunities for Women

Agriculture is a field in which women are finding increasingly good opportunities. Poultry keeping, fruit growing, floriculture, dairying, truck farming, general farming,—all offer favorable openings for women. In all of these branches of agriculture women are farming independently. Women are also filling paid positions which include farm and estate managers and workers, garden supervisors, and workers in boys' and girls' agriculture clubs.

For the woman or girl whose home is already upon the farm the opportunity is exceptionally good. With the help of an agricultural education there are open to her many means of increasing her own or the farm income. With the knowledge of farm life which she already possesses, and with the possibility of securing occasional help from her family, she can easily carry on and develop a profitable enterprise of her own. The Stockbridge School of Agriculture will af-

ford to the women who wish to engage in farming the practical training which they will need to fit them for their work, and will open to them new doors of opportunity. The particular problems which the women engaged in farming will have to meet, and the special lines of farming in which they will have favorable opportunities, will be considered in a series of conferences.

Women who are interested in taking agricultural courses should correspond with Miss Margaret Hamlin, who acts as adviser for agricultural courses for women. Women interested in home economics should address Professor Edna L. Skinner.

Positions

The College does not guarantee positions to students registered in any of its courses, but it has an opportunity to recommend students for a large number of positions. A record is kept of each student's work and experience, and of his success in positions for which he has been recommended after he has finished his course. The opportunities for trained men and women, especially those who have had farm experience, are exceptionally good.

A student desiring a recommendation from the college must meet the following conditions:—

(1) He must be of good character.
(2) His previous record must be good.
(3) His work in all courses must be satisfactory.

Students who have not previously had a considerable amount of practical experience cannot, as a rule, be recommended for positions of responsibility. This is especially true of the better positions for which managers or superintendents are wanted.

ANIMAL HUSBANDRY

The Animal Husbandry major fits students to cope with the practical problems of live-stock production and management. It supplements and supports but does not duplicate or replace the necessary experience gained only through actual manual work in caring for animals. As a foundation, the study of breed history, live-stock trends, animal anatomy and physiology is required. Special attention is given to physiological processes in breeding and feeding. Later courses show how these processes actually function under the stockman's guidance.

A herd of about 200 dairy cattle including Ayrshires, Guernseys, Jerseys, Holsteins and Milking Shorthorns, a band of about a dozen Percheron brood mares, a flock of about 60 Southdown and Shropshire sheep and a herd of about 50 Berkshire and Chester White swine together with the modern barns and equipment for housing and caring for the above live stock and a farm of several hundred acres used primarily for the production of feed crops gives ample scope for illustrating and giving practice in modern methods of live-stock handling. The farm and barns are our laboratory; the animals and accessories our equipment.

Graduates from the Animal Husbandry major for the most part secure positions as herdsmen or farm managers.

Animal Husbandry

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agronomy S-2 (Manures and Fertilizers)	Six months' farm placement training
Animal Husbandry S-1 (Types and Breeds)	Animal Husbandry S-2 (Principles of Feeding)	
Dairy S-1 (General Dairy)	Bacteriology S-1 (Bacteriology and Rural Hygiene)	
Poultry S-1	Business Law S-1	
Tractor Practice	Motors S-2	
Electives	Milking, Harnessing and Teaming	
English S-1		

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Engineering S-1 (Farm Engineering)	Agricultural Economics S-1	Agronomy S-3 (Crops)
Agricultural Engineering S-3	Animal Husbandry S-4 (Herd Book Study and Animal Breeding)	Animal Husbandry S-5 (Live-stock Management and Stock Judging)
Agricultural Engineering S-7	Farm Management S-1 (Farm Management and Accounts)	Vegetable Gardening S-6 (General)
Animal Husbandry S-3 (Feeding Practice)	Pomology S-7 (General)	Veterinary Science (Animal Sanitary Science)
Rural Sociology S-1 (Social and Economic Problems	**Electives**	**Electives**
	Animal Husbandry S-7 (Farm Meats)	English S-3
	Forestry S-1	

Animal Husbandry S-1. (Types and Breeds.) I.

Includes a study of the history and development of the various breeds of cattle, horses, sheep and swine together with a discussion of the conditions to which each breed seems best adapted. Laboratory work consists of judging and evaluating as many rings of all the classes of farm live stock as time will permit. Textbook: Plumb, "Types and Breeds of Farm Animals."
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-2. (Principles of Feeding.) II.

A study of the fundamental principles of animal nutrition, of the composition of feeding materials and their relative importance for the different classes of farm animals in New England. The latter part of the course is devoted to a study of feeding standards and to the calculation of rations for all classes of farm live stock. Textbook: Henry and Morrison, "Feeds and Feeding."
5 class hours a week. Credits, 5.

Animal Husbandry S-3. (Feeding Practice.) I.

A continuation of S-2 showing the application of the principles of nutrition in economic live-stock production, and including the management and feeding of horses, cattle, sheep and swine of all ages. Feeding and managerial problems are assigned for outside work followed by ample classroom discussions. Prerequisites: Animal Husbandry S-1 and Animal Husbandry S-2. Textbook: Henry and Morrison "Feeds and Feeding."
5 class hours a week. Credits, 5.

Animal Husbandry S-4. (Animal Breeding and Herd-Book Study.) II.

Includes a study of the physiology of reproduction and of animal genetics as well as the art of breeding. Among the topics included are the Origin and Domestication of Farm Animals; Modern Theories of Heredity, Variation and Sex Determination; the Systems of Breeding—Cross-, Out-, Line-, and Close-Breeding; and the one paramount problem of animal breeding, namely, Selection. Considerable pedigree work in the student's favorite breed is also included. Prerequisites: Animal Husbandry S-1 and Animal Husbandry S-2. Textbook: Rice, "Breeding and Improvement of Farm Animals."
4 class hours and 1 2-hour laboratory period a week. Credits, 5.

Animal Husbandry S-5. (Live-Stock, Management, Stock Judging and Equitation.) III.

The first half of the term will be devoted to practical work in handling, fitting and judging live stock. The last half of the term will be devoted to lectures covering the feeding, selection and management of riding or cavalry horses, and practice in riding. The riding practice will consist of drills on the military field and cross-country trips, by arrangement with the Military Department. Prerequisites: Animal Husbandry S-1, Animal Husbandry S-2, Animal Husbandry S-3, Animal Husbandry S-4.
5 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-6. (General Animal Husbandry.) II.

Consists of a general study of animal husbandry; types and market classes of live stock, breeds of farm animals, principles and practice of feeding, live-stock breeding; and management of herds, flocks and studs. Laboratory work is given in live-stock judging and management. As much detail of this broad subject is given as is consistent with time allotted. Textbook: Plumb, "A Study of Farm Animals."

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-7. (Farm Meats.) II.

This course is the complement of the production course previously given and permits the student to follow the product (beef, pork, veal and lamb) through the farm barn and feed lot to its final destination, the consumer's table. Practice is afforded in the killing, cutting and curing of beef, pork, veal and lamb. Included in this course is a trip to several large packing houses in Boston, consuming two days and costing about $20. Prerequisites: Animal Husbandry S-1, Animal Husbandry S-2, Animal Husbandry S-3. Textbook: Tomhave, "Meat and Meat Products."

1 class hour and 1 4-hour laboratory period a week. Credits, 3.

NOTE.—Every student in this course must qualify in tractor practice, milking, harnessing, and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put in placement training who has not satisfied these preliminary requirements.

DAIRY MANUFACTURES

The Dairy Manufactures course is designed to fit men for positions with market milk concerns, creameries, ice-cream factories, and specialized dairy farms.

All dairy manufacturing work is given in the dairy building (Flint Laboratory), a modern building designed especially for dairy work. The building is equipped with the newest and best types of dairy and creamery machinery.

The market milk room contains two complete pasteurizing units, a clarifier, separator, milk heater, automatic bottle filler and capper, and other necessary equipment for the proper handling of market milk.

The ice-cream making room contains a brine freezer, a direct expansion freezer, and additional equipment such as is found in a modern ice-cream plant.

The room designed for cheese making is equipped with cheese vats, draining racks, presses, mixer, etc. The butter making room has various types of hand and power churns, workers, scales, and other accessories.

The separator room contains a complete collection of separators and exhibits of modern equipment and supplies for the dairyman.

The testing laboratories are well equipped with apparatus for the Babcock and Mojonnier tests.

Dairy Manufactures

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agronomy S-2 (Manures and Fertilizers)	Six months' farm placement training
Animal Husbandry S-1 (Types and Breeds)	Animal Husbandry S-2 (Principles of Feeding)	
Dairy S-1 (General Dairy)	Bacteriology S-1 (Bacteriology and Rural Hygiene)	
Poultry S-1	Business Law S-1	
Electives	Motors S-2	
English S-1		

Ice Cream Making

A Class in Cooking

Second Year

Fall Term	Winter Term	Spring Term
Bacteriology S-2 (Dairy Bacteriology)	Agricultural Economics S-1	Agricultural Engineering S-5 (Dairy Mechanics)
Dairy S-2 (Ice Cream Making)	Dairy S-3 (Market Milk)	Dairy S-4 (Butter Making and other products)
Rural Sociology S-1 (Social and Economic Problems)	Farm Management S-1 (Farm Management and Accounts)	Veterinary Science S-1 (Animal Sanitary Science)
		Electives
		English S-3

Dairy S-1. (General Dairy.) I.

This course takes up the question of the importance of dairying in the United States, and especially in the New England States, giving the development of dairying from the earliest to the present time. It covers the secretion, composition, and properties of milk; reasons for variation in the per cent of fat in different samples of milk; the Babcock test for fat in milk and other dairy products; other common milk tests; the advantage of testing herds, cow test associations, advanced registry work; the handling of market milk; soft cheese making, ice-cream making, and butter making as applied to general farm conditions. The laboratory work consists mainly in testing milk and dairy products for butter fat, solids, and acidity, together with some laboratory work in milk handling, butter making, cheese making, and ice-cream making.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Dairy S-2. (Ice-cream Making.) I.

In this course a careful study is made of modern methods of manufacturing the common frozen dairy products (ice-cream, sherbets, and ices, also frozen puddings, punches, mousses, etc.).

The lecture work includes a discussion of the history of ice-cream making, the ingredients found in ice-cream, methods of preparing and standardizing mixes, the freezing process, methods of hardening, marketing, and distribution of the finished product.

The laboratory work involves the preparation and standardization of ice-cream mixes, the freezing of ice-cream and other frozen dairy products, and laboratory tests for butter fat and total solids in ice-cream.
4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

Dairy S-3. (Market Milk.) II.

This course takes up the history of market milk, its food value and use. Attention is given to the necessary essentials in producing a clean product; the economics of milk production; the advantages of co-operative milk producers' organization; the various methods of marketing milk; clarification; pasteurization; cooling, etc.

The laboratory work consists of receiving and making quality tests on milk and the operation of the machinery used in processing market milk. In addition, trips to dairy farms and a one-day trip, with estimated cost of $5.00, will be made to city milk plants.
4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

Dairy S-4. (Butter Making and Other Dairy Products.) III.

A large part of this course consists of the study of butter making; other products are, cheese and "surplus products."

Under butter making the principal factors studied are: methods of separating milk, the history, selection, care, and use of separators; the pasteurization and ripening of cream; testing cream for acidity; the making and use of starters; a study of churns and churning; modern methods of making butter; marketing butter; tests for moisture, salt, fat, and curd content of butter.

Lectures are given covering the manufacture of other milk products (cheese,

commercial buttermilk, casein, condensed milk, milk powder, etc.). The manufacture of hard and soft cheeses (cheddar, pimento, olive, nut, neufchatel, cottage, etc.) is considered, either from the standpoint of marketing the entire milk supply of the dairy through these products or the economic disposal of surplus milk.

The laboratory work covers the operation of separators and churns, the making of butter, hard and soft cheese, commercial buttermilk, etc. In addition, a one-day trip, with estimated cost of $5.00, will be made to city dairy plants. 4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

POULTRY HUSBANDRY

Seven courses are offered by this department. One is a general course designed particularly to equip the student with the fundamental principles underlying successful poultry keeping as related especially to the farm flock. The other six courses are for the student who desires to specialize in poultry culture.

There is a broad field of opportunity for adequately trained men in the commercial handling and sale of poultry and poultry products, specialists in incubation, brooding and rearing, and assistants or managers of commercial poultry farms. Good profits and wages await well-equipped men and women in these and other branches of poultry work.

This department is well equipped to offer practical instruction in poultry husbandry. Our quarters and equipment in Stockbridge Hall provide ample facilities for efficient classroom and laboratory teaching.

Our practical laboratory (college poultry plant) comprises about 1,500 adult birds, divided into some 40 pens of various designs, the flocks ranging in size from 10 to 250 birds; thirty lamp incubators, as well as four mammoth machines; brooding and rearing facilities for 5,000 chicks, including many styles of stove, kerosene and electric brooders; facilities for practice in pen management, fattening, killing, picking, caponizing, judging, mixing rations; construction of poultry houses and appliances, etc.

In addition to the actual practice work performed, the student has an opportunity to keep under observation practical experiments and demonstrations continually under way for the instruction of students and practical poultry keepers.

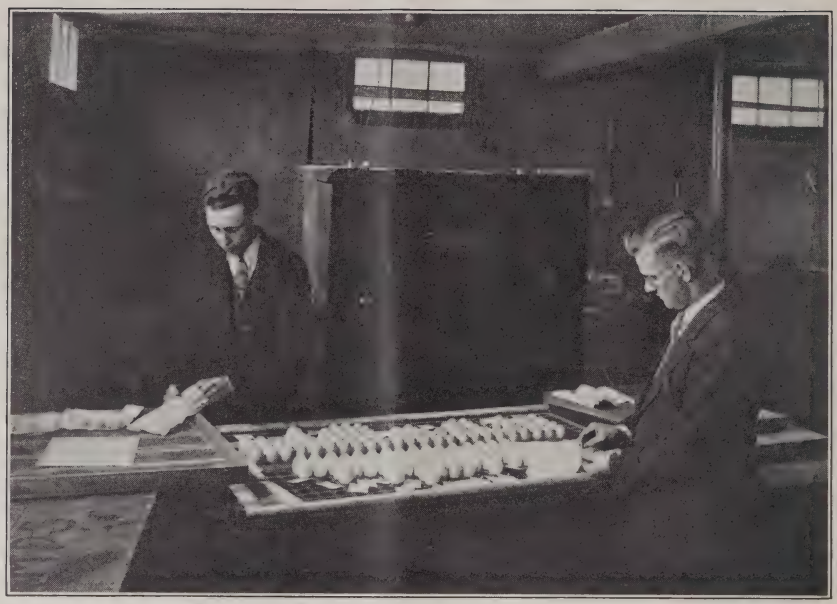
Poultry

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agronomy S-2 (Manures and Fertilizers)	Six months' farm placement training
Animal Husbandry S-1 (Types and Breeds)	Bacteriology S-1 (Bacteriology and Rural Hygiene)	
Dairy S-1 (General Dairy)	Business Law S-1	
Poultry S-1	Motors S-2	
Tractor Practice	Poultry S-2	
Electives	Milking, Harnessing and Teaming	
English S-1		

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Engineering S-3	Agricultural Economics S-1	Agronomy S-3 (Crops)
Agricultural Engineering S-7	Farm Management S-1 (Farm Management and Accounts)	Entomology S-2 (Beekeeping)
Entomology S-1 (Beekeeping)	Pomology S-7 (General)	Poultry S-5
Poultry S-3	Poultry S-4	Vegetable Gardening S-6 (General)
Poultry S-7 (Poultry Sanitation and Poultry Specialties)		**Electives**
Rural Sociology S-1 (Social and Economic Problems)		English S-3



Students Starting a Pedigree Hatch

Field Study of Tillage Implements

Poultry S-1. (Judging and Housing.) I.

This course embraces a study of the various economically important types and breeds of domestic fowl, judging for egg production capacity, and for exhibition quality. A visit to one Connecticut Valley poultry show may be required. This course also covers the principles and practices of constructing and equipping houses on a commercial poultry farm.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Poultry S-2. (Incubation and Brooding.) II.

A study of incubation and brooding is made by means of the operation of standard incubators and brooders and through a consideration of basic principles. Students select and grade hatching eggs; complete a hatch in small incubators and run mammoth incubators for a period of time. Under supervision each student has charge of a brood of chicks.
2 class hours and the equivalent of 3 2-hour laboratory periods. Credits, 5.

Poultry S-3. (Feeding and Marketing.) I.

A study of the common poultry feeds, feeding principles and successful commercial farm practices. For organized practice, the feeding and management of a pen of birds for a few weeks will be required. This course also covers candling, grading and packing eggs, market classification of poultry and eggs, judging eggs, fattening, killing, dry and scald picking, drawing, shaping and packing poultry, judging of live and dressed market poultry, the requirements of various markets and relative merits of different systems of marketing. Each member of the class is required to fit entries for the Annual Market Poultry Show.
4 class hours and 2 2-hour laboratory periods a week. Credits, 6.

Poultry S-4. (Poultry Breeding.) II.

The course includes the study of the improvement of poultry by means of mass selection, "seed-plot" and pedigree methods of breeding. Students follow through each step of a pedigree hatch and assist in the selection of the breeders used at the college plant. Basic principles of heredity necessary for an understanding of good breeding practices are studied.
3 class hours and 2 2-hour laboratory periods per week. Credits, 5.

Poultry S-5. (Poultry Farm Management.) III.

In this course the following points are given special attention: lines upon which a well-organized poultry farm is developed, the general arrangement of plots and buildings, record keeping, accounting and advertising, and a study of surveys. A trip covering two or three days will be made to representative successful poultry farms. The expense per student is approximately $15. This is required of each student taking the course for credit.
4 class hours and the equivalent of 1 2-hour laboratory period per week.
Credits, 5.

Poultry S-6. (General Poultry Course.) II.

Poultry keeping as a national industry; its importance and geographical distribution; opportunities and possibilities in poultry culture in Massachusetts; principles of feeding; utility classification of fowl; incubation, both natural and artificial; the production and packing of hatching eggs; the baby chick industry; and brooding and rearing. Practical exercises will be closely correlated with the breeds and varieties, studies of various types and sizes of incubators, brooders, and brooder houses.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

NOTE.—Students who take course 6 must get permission from the Poultry Department to take advanced poultry courses.

Poultry S-7. (Poultry Sanitation and Poultry Specialties.) I.

This course aims to acquaint the student with the normal hygienic conditions under which our domestic poultry thrive best. Sufficient anatomy and physiology will be given to enable the student to distinguish between normal and abnormal conditions. The nature of disinfectants and external and internal antiseptics will be stressed and the students made acquainted with the best usages both scientific and practical in conducting a sanitary program for disease prevention and control. A special effort will be made to link the sanitary, hygienic, and disease control problems with the so-called down-to-date practices in feeding, housing and general management. The general care and breeding of ducks, geese, squabs, and turkey and the importance and management of game farms will be featured in this course.

4 class hours and 1 2-laboratory period a week. Credits, 5.

NOTE.—Every student in this course must qualify in tractor practice, milking, harnessing, and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put in placement training who has not satisfied these preliminary requirements.

FLORICULTURE

Students who complete the course in floriculture are fitted primarily for work in commercial and private estate greenhouse establishments and retail flower stores. After gaining experience, such students may be able to start in business for themselves. With the courses in general horticulture they should also be qualified for positions on private estates, in parks, or in nurseries.

The offices and classrooms of the Department of Floriculture are located in French Hall. Of the two lecture rooms, one will accommodate 40 students, the other 90 students; a laboratory, equipped with slate-covered tables, will accommodate 40 students. In the basement of the building the department has a specially prepared room for bulb storage, a fertilizer and tool room, and a large room for general storage purposes.

The glass area of the department consists of approximately 20,000 square feet, divided as follows: French Hall, range of 7,200 square feet, a durable, practical commercial range, composed of palm and fern, sweet pea, carnation, rose, and students' houses; the old Durfee range of 7,400 square feet, devoted to the growing of decorative, conservatory and bedding plants and chrysanthemums; one house of 3,200 square feet suitable for propagating work and general plant culture; and approximately 2,200 square feet in cold frames and hotbeds.

In addition, the department has 2 acres of land used for the summer culture of carnations, gladioli, dahlias, sweet peas and bedding plants; a perennial garden, an annual garden and a rose garden.

Floriculture

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agricultural Engineering S-4	Six months' farm placement training
Floriculture S-1 (Garden Flowers and Bedding Plants)	Agricultural Engineering S-7	
Pomology S-7 (General Pomology)	Agronomy S-2 (Manures and Fertilizers)	
Vegetable Gardening S-1 (Garden Farming)	Business Law S-1	
Tractor Practice	Floriculture S-2 (Greenhouse Construction and Management)	
Electives	Horticulture S-1 (Plant Propagation)	
English S-1	Teaming and Harnessing	

Second Year

Fall Term	Winter Term	Spring Term
Floriculture S-3 (Commercial Floriculture)	Floriculture S-4 (Commercial Floriculture)	Floriculture S-5 (Conservatory Plants)
Floriculture S-6 (Floral Arrangement)	Horticulture S-2 (Plant Materials)	Floriculture S-7 (Uses of Herbaceous Plants)
Horticulture S-12 (Care of Plant Materials)	Rural Sociology S-1 (Social and Economic Problems)	Horticulture S-3 (Plant Materials)
Electives	Vegetable Gardening S-4 (Vegetable Forcing)	Horticulture S-8 (Construction and Maintenance)
Entomology S-1 (Beekeeping)		**Electives**
Motors S-2		English S-3
		Entomology S-2

Floriculture S-1. (Garden Flowers and Bedding Plants.) I.

This course is intended for students who will take up private estate work or who will specialize in floriculture. It will include a study of the annuals, biennials, herbaceous perennials, and bedding plants which are commonly used in commercial floriculture and in private estate work. Methods of propagation, culture and uses will be considered. Laboratory exercises will include work in propagation, planting, study of materials, and planning of beds and borders.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-2. (Greenhouse Construction, Heating and Management.) II.

This course will take up the origin, growth, and importance of the floriculture industry; development of the greenhouse; types of houses and construction; methods of greenhouse heating; general principles of greenhouse management; including soils and their preparation, fertilizers, watering, ventilation, and fumigation; methods of propagation for plants grown under glass. Trips are taken to visit greenhouse establishments in the vicinity of Amherst at a total approximate cost of two dollars. Textbook: White's "Principles of Floriculture."
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-3. (Commercial Floriculture.) I.

Courses S-3 and S-4 will be devoted primarily to a consideration of the important commercial crops. Special attention will be given to the culture (under glass) of roses, carnations, chrysanthemums, violets, and sweet peas. Other cutflower crops and various potted plants will also be considered. All members of the class are required to take a one-day trip to visit a large commercial greenhouse establishment at an approximate cost of five dollars each. Textbooks required during the two courses will be: Holmes, "Commercial Rose Culture"; and Smith, "Chrysanthemum Manual."
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-4. (Commercial Floriculture.) II.

A continuation of Floriculture S-3.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-5. (Conservatory Plants.) III.

A study of the plants, both foliage and flowering, which are used in conservatories and in decorative work. Methods of propagation, culture, uses, and identification of plants will be included in the work. Trips are taken to visit the conservatories at Smith and Mount Holyoke colleges at slight expense.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-6. (Floral Arrangement.) I.

A study of the principles underlying the use of flowers in funeral designs and sprays, table decorations, corsages, vase, bowl and basket arrangements; decorations for public functions; study of color with regard to such work. Limited to students who are majoring in floriculture. Textbooks: White, "Principles of Flower Arrangement"; Harry, "Manual of Floral Designing".
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Floriculture S-7. (The Use of Herbaceous Plants.) III.

This course is a continuation of Floriculture S-1 and is intended for students specializing in floriculture and general horticulture. It provides opportunity for a more detailed study of many of the plants considered in the preceding course, with especial emphasis on their uses in gardens and in other types of landscape planting. Lectures, assigned readings, study and identification of plants, planning of borders and gardens.

3 class hours and 1 4-hour laboratory period a week. Credits, 5.

NOTE.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

GENERAL HORTICULTURE

The object of this course is to train men for positions as superintendents or foremen on parks or on private estates, or as foremen for landscape gardeners, or for private practice in horticulture service, including so-called tree surgery, city forestry and golf grounds.

Ample classrooms and laboratories with necessary equipment are provided for all work that must necessarily be done indoors. The extensive college campus with its stretches of lawn, its plantings of trees, shrubs, and vines, its drives and walks, furnishes an outdoor laboratory where the student will be brought into personal relation with problems comparable in every way with those that arise in the management of a park, private estate, etc. Work with various types of horse power, motor power and hand machinery and implements will give him practical knowledge of their use, care, and application. A growing nursery furnishes opportunity for the propagation and culture of those plants used in ornamenting grounds, the transplanting of these about the grounds in compliance with prepared landscape plans, and their subsequent care, including proper methods of pruning.

Horticulture

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agronomy S-2 (Manures and Fertilizers)	Six months' farm placement training
Floriculture S-1 (Garden Flowers and Bedding Plants)	Applied Mathematics S-1	
Pomology S-7 (General Course)	Business Law S-1	
Vegetable Gardening S-1	Horticulture S-1 (Plant Propagation)	
Tractor Practice	Motors S-2	
Electives	Teaming and Harnessing	
English S-1		

Second Year

Fall Term	Winter Term	Spring Term
Horticulture S-4 (Principles of Plane Surveying)	Forestry S-1 (Woodlot Management)	Floriculture S-7 (The Use of Herbaceous Plants)
Horticulture S-12 (Care of Plant Materials)	Horticulture S-2 (Plant Materials)	Horticulture S-3 (Plant Materials)
Pomology S-8 (Small Fruits)	Horticulture S-5 (Drawing and Mapping)	Horticulture S-6 (Surveying and Plan Making)
Electives	Horticulture S-13 (Plant Breeding)	**Electives**
Horticulture S-7 (Park and Estate Maintenance)		English S-3
Horticulture S-9 (Golf Course Maintenance)		Horticulture S-8 (Construction and Maintenance)
		Horticulture S-11 (Varieties of Greens, Grasses and Their Culture)

Horticulture S-1. (Plant Propagation.) II.

This course sets forth the principal and best methods used in reproducing and increasing the number of those plants cultivated in the various branches of horticulture.
4 class hours and 1 2-hour laboratory period a week. Credits, 5.

Horticulture S-2. (Plant Materials.) II.

The object of this course is to learn to know the trees, shrubs and vines used in ornamental plantings. Special consideration will be given to their individual characteristics as indicated in their fruits, dormant twigs and habits of growth.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-3. (Plant Materials.) III.

A continuation of Horticulture S-2 giving special attention to the foliage characters of evergreens; also a study of the association of various species of plant materials in group plantings.
3 class hours and 1 4-hour laboratory period a week. Credits, 5.

Horticulture S-4. (Principles of Plane Surveying.) I.

Outdoor practice in the use of simple surveying instruments, as tapes, compasses and levels used in the measurement of land surfaces. Lectures will include explanation of construction and theory of instruments.
3 class hours and 1 4-hour laboratory period a week. Credits, 5.

Horticulture S-5. (Drawing and Mapping.) II.

This course deals with practice in elementary drafting, using various types of instruments and materials. Use will be made of the notes taken in Horticulture S-4, in the study of contour maps, grading plans, house lots and gardening problems. Practice will be given in the reading and interpretation of typical maps and plans.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-6. (Surveying and Plan Making.) III.

In this course there will be an application of the methods studied in Horticulture S-4 and S-5 to the mapping of small areas, house lots, garden and park areas, road and walk construction, staking out areas from plans, grading work and simple garden construction problems.
3 class hours and 1 4-hour laboratory period a week. Credits, 5.

Horticulture S-7. (Park and Estate Maintenance.) I.

The work of this term will deal with construction and maintenance of roads and walks, especially such roads as are typical to parks and estates, proper foundations and drainage being emphasized; systems of cost keeping for parks and estates and actual cost records analyzed; relationship between superintendent and laborer; and the entire problem of lawn grass seed, illustrated by growing plots of the more common varieties. Throughout the term there will be laboratory exercises pertinent to the typical fall problems.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-8. (Construction and Maintenance.) III.

In addition to the routine spring problems special emphasis will be made upon the proper cultural methods for lawn building and maintenance. A careful study of all equipment will be made this term.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-9. (Golf-Course Maintenance.) I.

While this course will not teach golf-course designing, the fundamentals of good designs will be carefully studied. Fall maintenance problems will be practiced and studied.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-11. (Varieties of Greens, Grasses and their Culture.) III.

The identification of grasses in turf will be required. The effects of fertilizers on various grasses studied and fertilizer method practiced. Two putting greens will be put into playing condition and maintained. Two large demonstration plots will be used in connection with this course.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Horticulture S-12. (Care of Plant Materials.) I.

This course deals with the care of woody ornamental plants under the following heads; planting, pruning, maintenance of soil fertility, winter protection and tree-surgery.

3 class hours and 1 4-hour laboratory period a week. Credits, 5.

Horticulture S-13. (Plant Breeding.) II.

This course considers the origin of cultivated plants, the problems and methods of the plant breeder in the improvement of horticultural varieties, and some of the basic principles of inheritance on which plant improvement is based.

5 class hours a week. Credits, 5.

Excursions.

For Horticulture S-7 a one-day excursion to estates in Berkshire County. Estimated cost $5.00.

For Horticulture S-11 a two-day excursion to the eastern part of the state visiting golf courses and greenskeepers. Estimated cost $15.00.

These excursions will be required.

Note.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

POMOLOGY

This course is arranged to give the student a sound practical knowledge of fruit growing and allied subjects. Graduates who are capable and experienced have advanced rapidly to positions of responsibility in some of the larger orchards of New England, and the demand is active for good men in that field.

Some graduates of this course have gone into business for themselves, establishing successful orchards of their own, or pruning, spraying and otherwise caring for a number of small orchards, the owners of which are not prepared to do their own work. Still others are packing house foremen or are engaged in some other marketing activity. The fruit-growing industry of New England is developing rapidly and the opportunities are excellent for good men who are well trained.

Practical work in the orchards under expert supervision is emphasized where possible. It is intended to familiarize students with the best methods that have been devised by experiment stations and leading fruit growers for the production and marketing of high quality fruits under New England conditions. The Department of Pomology has about fifty acres of fruits easily accessible from the classroom, and the orchards are used freely for purposes of instruction. All the common tree fruits and small fruits are grown here on a commercial scale. Many experiments and demonstrations are in progress in the plantations, offering an exceptional opportunity to the student.

A good equipment is maintained of the principal types of orchard tools and machines. Such implements as sprayers, nozzles, pruning saws, pruning shears, ladders and cultivators are available in great variety for study and trial by students.

Pomology

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agricultural Engineering S-4	Six months' farm placement training
Floriculture S-1 (Garden Flowers and Bedding Plants)	Agricultural Engineering S-7	
Pomology S-1 (Orchard Production)	Agronomy S-2 (Manures and Fertilizers)	
Vegetable Gardening S-1	Business Law S-1	
Tractor Practice	Horticulture S-1 (Plant Propagation)	
Electives	Pomology S-2 (Orchard and Vineyard Pruning)	
English S-1	Teaming and Harnessing)	

Second Year

Fall Term	Winter Term	Spring Term
Entomology S-1 (Beekeeping)	Agricultural Economics S-1	Entomology S-2 (Beekeeping)
Horticultural Manufactures S-1	Pomology S-9 (Problems in Orchard Management)	Farm Management S-1
Pomology S-3 (Harvesting and Marketing)	Rural Sociology S-1	Pomology S-5 (Spraying)
Pomology S-4 (Fruit Varieties)	**Electives**	Pomology S-6 (Small Fruits)
Electives	Animal Husbandry S-6 (General)	**Electives**
Motors S-2	Horticultural Manufactures S-2	Agronomy S-3 (Crops)
	Poultry S-6 (General)	English S-3
		Horticulture Manufactures S-3

Pomology S-1. (Orchard Production.) I.

This course covers the planting and development of young orchards and the management of bearing plantations to produce high-grade fruit. Sites and soils for each of the tree fruits are discussed and the preferences of certain varieties for particular types of soils are studied, to guard against serious mistakes in planting. The best methods are considered for laying out orchards and for setting trees to insure a proper start. The handling of young trees to bring them into early profitable bearing is given special attention.

The culture of bearing plantations is studied in detail to give an understanding of the factors that influence yields and quality of fruit. Methods of soil management are discussed with their adaptation to common soil types and with reference to their advantages and limitations. The experimental plots afford exceptional opportunities to study cultural methods and many subjects are discussed in the orchards.

5 class hours a week. Credits, 5.

Pomology S-2. (Orchard and Vineyard Pruning.) II.

Fruit plantations may be damaged more by unintelligent pruning than by mismanagement in any other single operation. If the orchardist does not know that apple trees bear on spurs, he is very likely to cut them off in pruning, and so reduce his chances for a crop. If he is ignorant of the fact that the peach bears on last year's wood, he may remove most of this wood, and incidentally most of his crop. This course aims to give the student a thorough training in the theory of pruning and the methods of bearing of the different fruits.

At the same time, every student is required to prune in the college orchards and vineyards until he becomes reasonably proficient with each kind of fruit.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Pomology S-3. (Harvesting, Packing, Storing, Marketing.) I.

Handling the crop to the best advantage is one of the most important things in successful fruit growing and one which too often is badly managed because the fundamental principles are not understood. The proper time for harvesting is discussed in this course as well as the most satisfactory methods to insure a maximum storage season.

Particular attention is given to packing apples in boxes and barrels, and practice is continued under supervision until the principles are mastered. Many other packages are packed and studied also in relation to the movement of the New England apple crop.

The principles of common and refrigerated storage are considered in detail and storage house construction under New England conditions is discussed, with a critical examination of several storages in use on or near the campus.

The competitive position of New England in the apple market is studied in relation to market demands and attention is given to export markets and to cities outside of New England. Modern methods of marketing are considered with special reference to developing local markets and to co-operation in handling New England apples.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Pomology S-4. (Fruit Varieties.) I.

One of the most prolific causes of failure in the fruit business is the growing of wrong varieties; varieties requiring a dry soil are set in a wet soil; tender varieties are set in a wet soil or where only hardy ones should be used; quality, productiveness, and season of ripening are ignored; and varieties are set which might be excellent in Ohio or Virginia or Missouri, but which cannot be grown profitably in Massachusetts.

This course aims to lay the foundation for a better state of things. The student is given a thorough drill on varieties of different fruits and has an opportunity to test personally many of the leading varieties, especially of apples.

5 class hours a week. Credits, 5.

Pomology S-5. (Spraying.) III.

In this course a careful study is made of modern methods of spraying. All the principal spray materials are studied, and the student is given practice in their preparation for use and in applying them to the orchard.

The department is well equipped with modern spraying apparatus, from bucket pumps to large power outfits, and students are required to study the construction of these pumps, and to operate them in the orchards.

Spraying is very properly regarded as one of the most important operations in connection with growing fruit, and it is the aim of this course to train students to recognize the work of our common orchard pests, to prepare the proper materials for their control, and to apply them efficiently.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Pomology S-6. (Small Fruits.) III.

While orcharding will always be the leading phase of fruit growing in Massachusetts, there are many unusual opportunities for success in growing the various small fruits. This course deal with the problems of establishing and handling successfully plantations of strawberries, raspberries, blackberries, currants, gooseberries, and grapes, including such questions as the choice of varieties; the best types of soils; laying off and setting the plantation; the proper fertilization; and methods of pruning and training. The college has large plantations of most of these fruits, so the student has ample opportunity for a wide range of practical work. The aim is to make the course of the utmost practical value, as well as to give the scientific principles on which practices are based. Each student must be prepared to take a trip to one of the fruit sections of the northeastern United States, at a cost of $15 to $25.

5 class hours a week. Credits, 5.

Pruning Raspberries

Learning to Spray

Pomology S-7. (General Course.) I, II.

This course is intended to meet the needs of students in the Animal Husbandry and Poultry majors who cannot devote more than one term to the subject of Pomology. It deals with the practical side of the growing and marketing of fruits. Special attention is given to such questions as selection of site for the plantation, choice of varieties, grafting and budding, spraying, pruning, cultivation and cover crops, fertilizing the fruit plantation, packing and marketing. 3 lectures and 2 2-hour laboratory periods a week. Credits, 5.

Pomology S-8. (Small Fruits.) I.

This course is designed for those students who are not majoring in Pomology but wish to make a special study of the various small fruits.

In a section like New England, with its excellent local markets, there are many farms and some whole sections where some of the small fruits may be made a very profitable part of the farm operations.

The course will include a detailed study of strawberries, raspberries, blackberries, currants and grapes, dealing with all the essential problems in establishing and maintaining such plantations, including such questions as the choice of site, selection of varieties, setting the plants, fertilizing, pruning, spraying, culture, harvesting and marketing.

The Pomology Department has commercial plantations of most of these fruits where the student will be given actual practice in all of the operations studied, so that he may become familiar with the practical details of handling such fruits. 5 class hours a week. Credits, 5.

Pomology S-9. (Problems in Orchard Management.) II.

This course provides an opportunity to focus placement training experiences and information acquired in previous courses on the major problems of the New England fruit grower. It is the aim of the course to familiarize the student with conditions under which fruit must be grown here, with current thought on the more important recent developments, and with the sweeping adjustments which are being made in the fruit industry of the Northeastern States. 3 class hours a week. Credits, 3.

NOTE.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

VEGETABLE GARDENING

The business of vegetable growing is one of the leading types of agriculture in Massachusetts. Middlesex County is surpassed in the value of vegetables grown for sale by only four other counties in the United States. The value of vegetables grown for home use in Massachusetts is more per farm than in any other State in this country. The vegetable greenhouse district around Boston is one of the largest in the United States, and the only district growing head lettuce under glass. The Massachusetts markets for vegetables are considered by many to be among the best, for we are further removed from the large vegetable trucking sections than other large centers of population, while our markets demand high-quality vegetables.

The two-year course in Vegetable Gardening is designed to prepare men to go into business for themselves as market gardeners, truck farmers, and greenhouse vegetable growers. For those whose principal interest may lie in other fields of agriculture the course has much to offer along the lines of special crops, often spoken of as cash crops. For those who wish to work for someone else this course offers training such that its graduates are being placed in responsible positions with commercial vegetable growers, seed growers, and on private estates.

Vegetable Gardening

First Year

Fall Term	Winter Term	Spring Term
Agronomy S-1 (Soil Management)	Agricultural Engineering S-4	Six months' farm placement training
Floriculture S-1 (Garden Flowers and Bedding Plants)	Agricultural Engineering S-7	
Pomology S-1 (Orchard Production)	Agronomy S-2 (Manures and Fertilizers)	
Vegetable Gardening S-1	Business Law S-1	
Tractor Practice	Pomology S-2 (Orchard and Vineyard Pruning)	
Electives	Vegetable Gardening S-2 Teaming and Harnessing	
English S-1		

Second Year

Fall Term	Winter Term	Spring Term
Horticultural Manufactures S-1	Agricultural Economics S-1	Pomology S-5
Pomology S-3 (Harvesting and Marketing)	Rural Sociology S-1	Pomology S-6
Pomology S-4 (Fruit Varieties)	Vegetable Gardening S-4	Vegetable Gardening S-7
Vegetable Gardening S-3	**Electives**	**Electives**
Electives	Horticultural Manufactures S-2	Entomology S-2 (Beekeeping)
Entomology S-1 (Beekeeping)	Poultry S-6 (General)	English S-3
Motors S-2		Horticultural Manufactures S-3

The business of vegetable gardening may be undertaken with a limited outlay of capital, for the returns on the capital invested are quickly secured. Some vegetable crops mature in a very few weeks, thus enabling one to turn over his capital from one to three times per season. The nature of this business is such that one locates as near the market as possible, and because of the growth of our cities, vegetable growers, as a group, have profited much by an increase in land values.

The Vegetable Gardening Department has 10 acres of land, 3,500 square feet of greenhouse space, and 500 linear feet of hotbeds and cold frames. These are used to give the student thorough practical training in the fundamentals of vegetable growing, plant production, and vegetable forcing. The office, classroom and laboratory are located in French Hall.

Vegetable Gardening S-1. (Principles of Vegetable Growing.) I.

Cultural practices employed in the growing of vegetables vary widely from place to place but the fundamental principles underlying these practices are everywhere the same. The lecture work in this course consists of a study of these principles with illustrations of their applications from a theoretical standpoint. The laboratory work consists of a study of the applications of scientific and practical knowledge to vegetable culture.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-2. (Principles of Vegetable Growing.) II.

The lecture work in this course is a continuation of that in Vegetable Gardening S-1. The laboratory work consists of a series of experiments on plant behavior. Problems on water requirements, plant nutrition, and the effects of various other factors on crop growth and yield are studied at first hand.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-3. (Systematic Vegetable Gardening.) I.

This course is designed to acquaint the student with the identification, nomenclature and classification of the standard types and varieties of vegetables; seed production and variety improvement work; sources of obtaining seed; exhibiting and judging of vegetables.
2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-4. (Vegetable Forcing.) II.

A study of (1) the geographical distribution of the greenhouse industry, and the part this phase of vegetable production plays in supplying our markets with fresh vegetables; (2) the underlying principles of plant production under glass and their practical applications; economic factors in harvesting and marketing of greenhouse produce.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-6. (Principles of Vegetable Growing.) III.

This course is similar to course S-1 except that it is more comprehensive. The practical studies are limited chiefly to the crops with which this group of students is likely to have to deal.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-7. (Principles of Vegetable Growing.) III.

A knowledge of the principles underlying the commercial vegetable growers' problems is necessary before these problems may be satisfactorily solved. Weekly assignments dealing with specific problems as encountered in the vegetable growing business are worked out by the students. Organized trips through the Connecticut Valley and one trip through the market gardening section near Boston are required. This latter trip requires about three days and costs each student approximately fifteen dollars.
3 class hours and 2 2-hour outside laboratory periods a week. Credits, 5.

GENERAL COURSES FOR WOMEN

There was offered in the fall of 1922, for the first time, a general course for those young women who do not want to specialize in any one branch of agriculture, but who do want preparation for rural life. This course includes such agricultural and home economic courses as the country girl would be most likely to use, both for profit and for pleasure. This course should appeal to many young women whose home is on a farm or in a small town; or those who hope some time to live in the country.

General Course for Women

First Year

Fall Term	Winter Term	Spring Term
Agricultural Opportunities for Women S-1	Agronomy S-2 (Manures and Fertilizers)	Six months' farm placement training
Agronomy S-1 (Soil Management)	Bacteriology S-1 (Bacteriology and Rural Hygiene)	
Floriculture S-1	Home Economics S-2	
Home Economics S-1	Home Economics S-3	
Physical Education S-1	Horticulture S-1	
Electives	Physical Education S-2	
English S-1		

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Engineering S-8 (Household Mechanics)	Animal Husbandry S-6 (General)	Home Economics S-5 (House Furnishing)
Dairy S-1 (General)	Home Economics S-4	Horticultural Manufactures S-3
Horticultural Manufactures S-1	Poultry S-6 (General)	Poultry S-5
Electives	Pomology S-7 (General)	Vegetable Gardening S-6 (General)
Entomology S-1 (Beekeeping)	**Electives**	**Electives**
Physical Education S-3	Agricultural Economics S-1	English S-3
	Horticultural Manufactures S-2	Entomology S-2 (Beekeeping)
	Physical Education S-4	
	Rural Sociology S-1	

RELATED SUBJECTS IN OTHER DEPARTMENTS

Agricultural Economics S-1. (Marketing.) II.

The purpose of this course is to present the business side, or economics of agriculture. It is based upon the principle that goods are made to sell, and that the real object of production is adequate money return.

The problem of the marketing of farm products is treated in a practical manner. The aim of the course is to co-ordinate the marketing practice with which the student has already become familiar during his placement training, or has used on his home farm, with the accepted principles and practices of farm marketing. Some of the topics discussed are marketing as a part of production; the principles of marketing; the methods of wholesale distribution; the methods of sale; the prices of farm products; government aids in marketing; co-operative buying and selling; the successful advertising of farm products; the principles of farm credit. Each student will be required to select some product of major interest to him and make a careful study of its production, handling and marketing.

A two-day marketing trip to the Boston market is required for the purpose of studying at first hand the methods of handling products on the wholesale market; the cold storage system; etc. The cost averages from $10 to $15.

5 class hours a week. Credits, 5.

Department of Agricultural Economics.

Agricultural Engineering S-1. (Farm Engineering.) I.

This course is intended to familiarize the student with the various types of farm implements, to teach him their operation and care, and give practice in the adjustment and repair of the mechanical equipment on the farm.

The various types of field implements are studied, and emphasis is laid on the selection of implements suited to New England conditions. The adjustment of machines is discussed and the student is given practice in setting machines for different field conditions.

Part of the course is given over to the repair of farm equipment. In this work part of the time is given over to blacksmithing and the balance to such exercise as soldering, babbitting and fitting bearings, lining up shafting, pipe fitting threading bolts and nuts, and practice in tying knots and splicing rope. Farm implements are brought in and overhauled to give practical work in this line. In the limited time available it is not expected to make a blacksmith or mechanic out of the student, but it is hoped that the student will learn to know the tools used and get sufficient practice in their use so that he can make repairs on his own equipment.

Part of the course is given over to the study of water supply systems, including pumps, rams, and complete power systems. Farm-lighting plants are also studied, attention being given to selection, as well as care and operation. The principles underlying the practice of farm drainage are discussed, and practice is given in the use of simple leveling instruments for the purpose of accurately grading tile drainage ditches.

2 lectures and 3 2-hour laboratory periods a week. Credits, 5.

Department of Agricultural Engineering.

Agricultural Engineering S-2. (Farm Motors.) I, II.

This course deals with the gasoline engine as used for stationary work, automobiles, and tractors. Instruction is given by means of lectures and textbooks, and by operating and repairing stationary engines, automobiles, and tractors. Special attention is given to overhauling and repairing.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Department of Agricultural Engineering.

Agricultural Engineering S-3. (Carpentry.) I.

This course gives practice in the care and use of carpenters' tools through bench work, repair of farm equipment, and building construction. Small buildings are erected by the students to give practice in all the phases of house construction. Practice is given in the building of forms and in the mixing and placing of concrete. (Must be taken with Agricultural Engineering S-7.)
2 2-hour laboratory periods a week. Credits, 2.
Department of Agricultural Engineering.

Agricultural Engineering S-4. (Repair of Farm Equipment.) II.

The object of this course is to give practice in the handling of tools, which will help in the repair of farm machines and miscellaneous farm equipment. Practice is given in forging, including drawing and shaping iron and steel, welding and tempering edged tools, and general blacksmith's repairing. Exercises also include pipe fitting, soldering, splicing rope, belt lacing, and babbitting and adjusting bearings. Practice is given in the use of machinists' tools, such as cold chisel. file, taps and dies, drill press, and lathe. (Must be taken with Agricultural Engineering S-7.)
2 2-hour laboratory periods a week. Credits, 2.
Department of Agricultural Engineering.

Agricultural Engineering S-5. (Dairy Mechanics.) III.

This course is planned for men who are fitting themselves to take charge of dairy plants or allied lines of work. A study of steam boilers, steam engines, steam turbines, pumps, steam traps, line shafts, belting, electric motors, milking machines, and refrigeration plants.
3 class hours and 1 4-hour laboratory period a week. Credits, 5.
Department of Agricultural Engineering.

Agricultural Engineering S-7. (Farm Structures.) I, II.

A study of the building materials commonly used in farm construction; details of construction and simple structural mechanics; the principle of design of such farm buildings as the dairy stable, hog house, horse barn, general purpose barn, poultry house, fruit and vegetable storage buildings, etc.

In the drafting room practice will be given in the use of drawing instruments, and instruction given in the fundamentals of drawing. Each student will have opportunity to design in complete detail one of the major farm buildings in which he is particularly interested. (Must be taken with Agricultural Engineering S-3 or S-4.)
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.
Department of Agricultural Engineering.

Agricultural Engineering S-8. (Household Mechanics.) I.

A study of house planning, heating, lighting, water supply, and sewage disposal. Practice will be given in the care and repair of household appliances.
2 class hours and 3 2-hour laboratory periods a week. Credits, 5.
Department of Agricultural Engineering.

Agricultural Opportunities for Women S-1. I.

An outline of the occupational progress of women with special attention to the vocational opportunities for women in agriculture and related fields.
2 class hours a week. Credits, 2.
Miss Hamlin.

Agronomy S-1. (Soil Management.) I.

Every agricultural interest is vitally concerned with the soil, its adaptations and its management for plant production. This course treats of the selection of suitable soils for the special purposes of agriculture, horticulture and floriculture, and with the management of soils with regard to moisture control, tillage, organic matter, soil bacteria, and soil acidity.

The laboratory work gives training in the use and interpretation of the maps of the U. S. Soil Survey and in tests of soil texture, organic matter and acidity. Practical field work will be given in judging the crop adaptation and value of soils, and field demonstration of the use of tillage tools on the college farm.

As a field project the student will be required to make a study of some farm, nursery or florist's plant. This project includes a survey of the soil conditions, and methods of soil and crop management, with analysis of the relation of the soil to the enterprise as a whole.

3 class hours and 1 3-hour laboratory period a week. Credits, 4.

Agronomy Department.

Agronomy S-2. (Manures and Fertilizers.) II.

This course deals with the storage and handling of manure and its use in crop production, with the selection and use of lime materials, and with the economical purchase and use of commercial fertilizers. The interpretation of fertilizer analysis and guarantee will be studied. Special attention will be given to the newer concentrated fertilizer materials and to those produced from atmospheric nitrogen.

The laboratory work will give practice in identification of fertilizer materials, and in the calculation of fertilizer formulas, and preparation of fertilizer mixtures. A demonstration of the effect of the different fertilizer elements on plant growth will be carried out by the students in the department greenhouse.

2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Agronomy Department.

Agronomy S-3. (Field Crops.) III.

This course is planned to acquaint the student with the best and most successful practices of production and harvesting of field crops. Problems usually arising in connection with these practices will be studied. Special attention will be given to the hay crop, corn, potatoes, roots, and pastures. Field work with growing crops and laboratory work in the identification of seeds of grasses, clovers, weeds and small grains, in tests of purity and germination of seeds and judging of different types of corn and potatoes will be given. Before completing the course the student will be expected to know how to select varieties. test seed, prepare the soil, select and apply fertilizer, plant, cultivate, harvest and store the field crops important in Massachusetts.

2 class hours, and 3 2-hour laboratory periods. Credits, 5.

Agronomy Department.

Applied Mathematics S-1. II.

A careful study of fractions, decimals, percentage, ratio and proportions, powers, roots, denominate numbers and elementary mensuration. Especial attention will be given to methods of computation and to practical applications to work given in the Horticultural Department.

5 class hours a week. Credits, 5.

Mathematics Department.

Bacteriology S-1. (Bacteriology and Rural Hygiene.) II.

In this course bacteria are studied as to types and reproduction, together with methods of dissemination, followed by discussions on these micro-organisms as related to man and his environment.

The work of the course will be divided into sections having to do with the study of the sanitary production and handling of milk, water and food and into a section having to do with the study of bacteria in terms of diseases of man and animal and the relationship to environmental factors such as air, humidity, food and personal hygiene. The sanitary production and distribution of milk is an important problem to a community and under the discussions pertaining to milk are to be considered various avenues of infections, methods of maintaining a sanitary production and how to establish suitable means for checking anything pertaining to contamination. Since water supplies are of special importance to man the construction of wells, cisterns, etc. will be considered briefly followed by discussions relative to contaminations and their consequences. The proper disposal of sewage offers a rural problem of no small importance. Therefore, in this course will be discussed construction and installation of septic tanks, together with the study of some of the bacteriological work to establish their efficiency. Work has been planned in this course to present some of the problems pertaining to the production and distribution of foods, special attention being given to preservation methods.

In the later part of this course will be presented some problems associated with the disease of man and animal. Various disinfectants will be considered and some time will be devoted to a discussion on the use and preparation of serums for fighting disease.

The purpose of this course will be to acquaint the student with the importance of bacteria and the subject of bacteriology in agriculture, industry, the arts and the relationship of this subject to the health of man and animals.

5 class hours a week. Credits, 5.

Bacteriology Department.

Bacteriology S-2. (Dairy Bacteriology.) I.

Bacteria and other micro-organisms are the responsible agents for changes which occur in milk, and for the contagion which sometimes causes disease. They are found in milk at times when leaving the udder, they get in with the dust and dirt while milking and they adhere to the dairy utensils which carry them over from one milking to the next. From the cow to the consumer there is the constant presence of these micro-organisms to contend with, on the one hand, and to foster on the other.

Many of these changes occurring in milk are undesirable, such as ropy milk, sour milk, bitter milk, tainted milk, etc. Many of these changes are encouraged as the ripening of cream for butter, of milk for cheese, of milks for milk drinks. The former are fought, the latter fostered.

Micro-organisms of typhoid fever, scarlet fever, diphtheria and other diseases find their way by means of milk to the consumer and produce epidemic forms of these diseases.

Much time is spent in making plate counts and interpreting results. The different bacteriological tests are studied, such as Breed and Methylene Blue. The proper use of these methods will quickly enable one to locate the source of trouble and check any further continuance.

It is evident therefore, that to handle milk and milk products safely it is desirable to know something of the agents which are the source of so much attention in the dairy. This indicates the nature of the substance of this course. This course is required of all students who elect dairying as one of their special lines of work.

1 4-hour and 2 3-hour laboratory periods a week. Credits, 5.

Bacteriology Department.

Business Law S-1. II.

Required for freshmen. To consist of a particular study of the contract, drawing, reading and interpreting the same; the sale; and problem work. Other branches of the law such as deeds, mortgages, corporations, partnerships,

commercial paper, torts and personal rights explained and presented by lectures during the course. Particular stress is placed on the reasoning process.
5 hours a week. Credits, 5.

English Composition S-1. I.

Required for freshmen with less than two full years of high school preparation, or its equivalent; and elective for others. To consist of directed readings (one book or its equivalent per week); essay writing (one short essay, book report personal or business letter, or writing of a similar nature per week); and an oral presentation (a five-minute address or talk on an assigned topic to be prepared for each week, and as many heard as time permits).
3 hours a week. Credits, 3.

English Composition S-3. III.

Required of seniors interested in dramatic presentation and elective for the rest. This course is in continuation of the freshman course; but lays particular stress on the drama and dramatic presentation. (All dramatic presentation endeavored by the Two-Year Course, or other short courses to be under the direction of the instructor in English Composition.)
3 hours a week. Credits, 3.

Entomology S-1. (Beekeeping.) I.

This course and the one following comprise a general consideration of the biology of the honey bee and the elements of practical beekeeping. This includes the life history of the individuals and their relation to the colony, their structure, normal behavior and instincts which form the basis of practical beekeeping. The best methods of management, which will provide more productive colonies for greenhouse and orchard pollination, and honey production are studied. Consideration is given to the problems of marketing and control of bee disease. As far as possible, the work is made individual in the construction of equipment and manipulation of bees.

The problems of fall management and wintering are made the basis of this course while those concerning spring and summer management are covered in Entomology S-2.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.
Entomology Department.

Entomology S-2. (Beekeeping.) III.

This course is a continuation of Entomology S-1 and is required of students taking that course.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.
Entomology Department.

Farm Management S-1. (Farm Management and Accounts.) II, III.

The work in this course involves a study of farm records and accounts; cost of producing and prices of farm products; uses of capital and credit; types of farming, selection of crop and livestock enterprises; size, diversity and production as related to the successful farm business; farm layout and arrangement; economic use of labor, power and equipment; detailed analyses of both successful and unsuccessful farms, how the farmer should make adjustments to meet economic changes; and finally, a bringing together of the information gained and applying it to the successful organization of a farm business.

Actual farm records are used to illustrate the above points. The entire course is made as applicable and practical as possible. Farm experience and the keeping of a personal expense account during the period of placement training are prerequisites of this course.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.
Farm Management Department.

Forestry S-1. (Woodlot Management.) II.

A course in tending, harvesting, marketing, and renewing the forest crop, with particular reference to the problems of the farm woodlot. The instruction is mainly practical, and is conducted in the field, with a minimum of bookwork; but there is a constant emphasis upon the development of keen and imaginative observation, and the acquisition of the conservationist point of view. Opportunities for field work are varied and extensive. There are woodlots of several types on or near the campus, and students have the fullest use of the Mt. Toby Demonstration Forest, a 750-acre tract 7 miles distant, belonging to the college and managed by the Forestry Department.

2 class hours and 1 4-hour and 1 2-hour field periods a week. Credits, 5.

Forestry Department.

Home Economics S-1. (Clothing.) I.

This course is based on the need of good judgment in the selection of clothing, both ready made and home made. It includes a study of fabrics, their cost, value, manufacture and suitable use; of ready-made and homemade garments; and of design, color and general appropriateness and becomingness of clothing. Some garments are made in the laboratory. One or more trips to textile mills and stores are included in the course.

Estimated cost of materials used in laboratory $5.00-$10.00.

Estimated cost of trips $1.50.

2 class hours and 2 3-hour laboratory periods a week. Credits, 5.

Miss Tucker.

Home Economics S-2. (Foods.) II.

This course aims to teach wise food selection and methods of preparation which are attractive, but which conserve food values. The use of a few basic principles in food preparation and serving, and in meeting nutritional needs will be stressed. Special study will be made of the body needs of persons of different ages and activity, and of the choosing of foods to meet these needs.

2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Miss Knowlton.

Home Economics S-3. (Health and Home Nursing.) II.

In this course emphasis is placed upon personal hygiene as a means of maintaining and improving health in the home. This will include ways of living to prevent sickness, the care of the family in case of unavoidable sickness, and the right attitudes toward health.

5 class hours a week. Credits, 5.

Miss Skinner.

Home Economics S-4. (Home Management.) II.

This course includes a study of the organizing and simplifying of methods of housekeeping; standards of living and family expenditures; the use of leisure time; family and community relationships.

5 class hours a week. Credits, 5.

Miss Skinner.

Home Economics S-5. (Home Furnishing.) III.

This course emphasizes the importance of attractive surroundings in creating a happy home life. It aims to develop good judgment and right standards in the selection of home furnishings. The discussions include the basic principles of good design, the use of color, the treatment of walls, floors and windows, and the choice, cost and arrangement of all types of furnishings found in the average home.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Miss Tucker.

Horticultural Manufactures S-1. I.

The utilization of culls and low grades of fruits and vegetables is becoming a more important problem each year. Producers should be able to market their whole crop at a profit. The general problems studied in this course will be: the manufacture of apple products from cull apples; the canning of all fruits and vegetables available at this season, together with the manufacture of their various products, such as jams, jellies, conserves, pickles, etc.

Students will be required to keep accurate costs of materials in all canning and manufacturing operations together with a record of methods used.

2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Department of Horticultural Manufactures.

Horticultural Manufactures S-2. II.

This is a continuation of Course S-1. The preservation of small fruits together with the manufacture of their products; the evaporation of fruits and vegetables, and the manufacture of fruit syrups are the principal subjects studied. Prerequisite: Horticultural Manufactures S-1.

2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Department of Horticultural Manufactures.

Horticultural Manufactures S-3. III.

This is a continuation of Horticultural Manufactures S-1 and S-2. The manufacture of maple products, fermented pickles, and the canning of spring vegetables will be the principal subjects studied. Students will be given opportunity to make special studies along the lines of their greatest interest. Prerequisites: Horticultural Manufactures S-1 and S-2.

2 class hours and 3 2-hour laboratory sessions per week. Credits, 5.

Department of Horticultural Manufactures.

Rural Sociology S-1. I and II.

Required for seniors. The first part of the course to deal with the study of the individual and his relationships and conflicts in society. Particular note to be taken of rural society and its problems. The remainder of the term to be taken up with specific problem study, individual topics to be assigned and papers prepared and read in class on the same.

5 class hours a week. Credits, 5.

Veterinary Science S-1. (Animal Sanitary Science.) III.

Conservation of the health of animals is the keystone of successful animal husbandry. This course acquaints students with the essentials upon which the health of animals depends. In order that students may later guard the animals in their charge, attention is given to conditions favoring communicable and non-communicable diseases, and to prophylactic measures.

5 class hours a week. Credits, 5.

Department of Veterinary Science.

PHYSICAL EDUCATION

Women

All women students are required to take physical education throughout the first year and may elect it with credit during the first and second terms of the last year.

Undergraduate women students are required to furnish a physical examination report from their family physician.

Physical Education S-1. I.

This course will include such outdoor sports as soccer, basketball, tennis and hiking
2 class hours a week. Credits, 2.
Mrs. Hicks.

Physical Education S-2. II.

This course will include posture exercises, folk dances, and games.
2 class hours a week. Credits, 2.
Mrs. Hicks.

Physical Education S-3 and S-4. I-II. (Elective for seniors.) Credits, 2.
Mrs. Hicks.

Men

Required Courses

Physical Education S-1. I. Recreation.—For freshmen. Outdoor games.
2 laboratory hours a week. Credits, 2.
Mr. Ball.

Physical Education S-2. I. Recreation.—For seniors. Outdoor games.
2 laboratory hours a week. Credits, 2.
Mr. Ball.

All undergraduate male students are given a physical examination upon entering.

Students reporting regularly in athletic squads, football, basketball or baseball, are not required to take the above courses.

SHORT COURSES AT THE MASSACHUSETTS AGRICULTURAL COLLEGE

Short courses are based on the idea that the motive which inspires study is the most significant factor in study itself, and that this motive rises when the student himself realizes he faces a problem that calls for a solution. Therefore, there is no age limit. Enrolled in short courses are found the young and the old, the experienced and the inexperienced, the theoretical and the practical. In this grouping there is a value, since students learn from each other as well as from the instructors. Practically all Short Course students intend to make a direct application of the knowledge given. Hence the aim of Short Course work is to offer the largest amount of information and training in agricultural and horticultural lines in the shortest possible time. During the past twenty years Short Courses have served hundreds of students in this Commonwealth, and the demand for these courses in recent years has steadily continued.

THE SUMMER SCHOOL

The college has maintained a Summer School for the past twenty-one years. The Summer Course is intended for high school teachers, teachers of agriculture, instructors in home economics, and for students who wish courses in science, education, and horticulture. The course lasts six weeks, beginning about the first of July and continuing through the month to about the second week in August. All courses offered, if successfully completed, carry collegiate credit or graduate credit.

The following schedule of courses, offered in 1928, indicates the nature of the work:—

Principals and Methods of Teaching
History of the Philosophy and Practice in Education
Educational Psychology
Secondary Education
Special Methods in Teaching Vocational Agriculture
Tests and Measurements
The Employed Teacher of Agriculture
Vocational Education
Clothing
Foods
Home Furnishing
Teaching Home Economics
Insect Life
Advanced Entomology
Botany for the Teacher
Fresh Water Algae, Fungi, Liverworts, Mosses and Ferns
Public Health
Geologic Processes and the Origin of Land Forms
Animals and Plants of the Past
Physiological Chemistry
Garden Flowers and Bedding Plants
Plant Materials
Garden Design
Surveying and Mapping
College Algebra
American Literature
Dramatic Presentation

THE WINTER SCHOOL

The Winter School has been established for a number of years at the college, and has proved to be very popular with farmers, their wives, sons, and daughters, teachers, college graduates, and others. This school begins about the first of January. Instruction was offered last year in—

Soil Fertility
Field Crops
Types and Breeds of Live Stock
Live Stock Feeding
Animal Breeding
Farm Management
Farm Accounts
Farm Motors
Dairy Bacteriology
Animal Diseases
Vegetable Gardening
Poultry Courses:—
Incubation, Brooding and Marketing
Feeding and Culling
Poultry Breeding and Sanitation
Poultry Housing, Management and Farm Organization
Tree Fruits
Pruning Tree Fruits
Spraying
Small Fruits
Harvesting and Marketing
Horticultural Manufactures
Floriculture
Marketing Farm Products
Botany
Entomology
Rural Sanitary Science and Hygiene
Agricultural Opportunities for Women
Food and Nutrition
Textiles and Clothing
Health Education
Home Management
Dairying
Greenskeepers Course
Principles and Methods of Teaching
Special Methods in Vocational Agricultural Teaching
Agricultural Teaching Improvement Problems in Massachusetts

A series of special two-week courses in ice-cream making, butter making, milk testing, and market milk are offered. During the two weeks the student devotes all of his time to the work of the special course in which he has enrolled. The instruction lasts throughout the day from 8 to 5. These courses meet a very definite need in the State for those who wish instruction, but who cannot attend for a longer period of time, and who do not wish to take other subjects.

DIRECTORY OF INFORMATION

A. The College.

Those desiring college catalogues, the President's annual report, and other pamphlets giving full information relative to entrance requirements, courses of study, expenses, opportunities for student labor, and so forth, should address Robert A. Hawley, Secretary, Amherst, Mass.

All questions regarding admission to the college, either to the freshman class or to advanced standing, should be addressed to William L. Machmer, Dean of the College, Amherst, Mass.

B. Experiment Station.

The Experiment Station conducts investigations in as many lines of agricultural science and practice as its funds will permit. It has charge of the inspection of commercial fertilizers, commercial feeding stuffs, and milk-testing apparatus. Branch stations in cranberry and market-garden culture are maintained in other sections of the State.

The station considers the farmers' problems to be its problems, and desires to keep in touch with them.

Requests for bulletins reporting the results of experiments and inspections, and for other information on the work of the station, should be addressed to Fred J. Sievers, Director of the Experiment Station, Amherst Mass.

C. The Graduate School.

Questions relating to courses offered leading to the degrees of Master of Science and Doctor of Philosophy, admission and work required, should be addressed to Dr. Henry T. Fernald, Director of the Graduate School, Amherst, Mass.

D. The Extension Service.

Inquiries of a general nature regarding the work of the Extension Service, extension publications, or requests for new lines of work should be addressed to Willard A. Munson, Director of Extension Service, Amherst, Mass.

E. Short Courses.

For information concerning the Short Courses, the Stockbridge School of Agriculture the Ten-Weeks Winter School, the Summer School, write or apply to Roland H. Verbeck, Director of Short Courses, Amherst, Mass.

MASSACHUSETTS AGRICULTURAL COLLEGE

APPLICATION FOR ENROLLMENT
IN THE
STOCKBRIDGE SCHOOL OF AGRICULTURE

Name ..... Date.....

Home Address..... Street..... State.....

Present Occupation..... Age.....

School or College Attended:

Name of School.....

Place .....

Number of Years in High School.....

Indicate by a check mark the course in which you desire to register. Do not check more than one.

1. Animal Husbandry
2. Dairy Industry
3. Poultry
4. Fruit Growing
5. Flower Growing
6. Vegetable Gardening
7. General Horticulture
8. General Course for Women

References.—I am personally acquainted with the above applicant, and know.....to be of good moral character, industrious, studious, and physically capable.

1. Name.....Position.....

Address.....

2. Name.....Position.....

Address.....

(Two references are required, and should not be members of your own family. Your minister and your teacher, or a former employer, are desirable. These persons should sign the application themselves.)

Mail this blank to Roland H. Verbeck, *Director of Short Courses*

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.

Certificate of Citizenship

The Massachusetts Agricultural College charges a tuition fee of $60 a term to students who are not residents of Massachusetts. In order to satisfy the college authorities that an applicant is entitled to state tuition of $20 per term, they require a statement signed by the clerk of the city or town in which the applicant resides, certifying to the fact that the (father, or guardian of the applicant or student, if of legal age) is a legal resident of said city or town. Such a statement may be made on the form below. If this is not presented when the student registers, the Treasurer has no option but to collect tuition on the above basis.

To the President of the Massachusetts Agricultural College.

This is to certify that on the date specified below,.....

.....

is a legal resident of.....

Signed.....

Date.....
(Seal)

Mail this blank to ROLAND H. VERBECK, *Director of Short Courses*

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.

C
M382Zst
1929/30

MASSACHUSETTS AGRICULTURAL COLLEGE

ANNOUNCEMENT

OF THE

STOCKBRIDGE SCHOOL OF AGRICULTURE

1929 - 1930

THE LIBRARY OF THE
MAR 31 1931
UNIVERSITY OF ILLINOIS.

Publication of this Document approved by the Commission on Administration and Finance

3M-7-'29. No. 5928

Stockbridge Hall and Dining Hall

THE LIBRARY OF THE
MAR 31 1931
UNIVERSITY OF ILLINOIS

THE M. A. C. BULLETIN

Amherst, Massachusetts

Volume XXI JULY, 1929 Number 4

Published Eight Times a Year by the Massachusetts Agricultural College
January, February, March, May, June, September, October, November

Entered at the post office, Amherst, Mass., as second class matter

CALENDAR, 1929-1930

The Stockbridge School of Agriculture

1929

September 30, Monday ..... Freshman Registration
October 1, Tuesday ..... Senior Registration
October 2, Wednesday, 8 A. M. ..... Fall term begins for seniors
October 12, Saturday ..... Holiday, Columbus Day
November 11, Monday ..... Holiday, Armistice Day
November 27-December 2, Wednesday 12 M.—
Monday, 8 A. M. ..... Thanksgiving Recess
December 21, Saturday, 12 M. ..... Fall term ends

1930

January 2, Thursday, 7:30 A. M. ..... Winter term begins
February 22, Saturday ..... Holiday, Washington's Birthday
March 22, Saturday, 12 M. ..... Winter term ends
March 31, Monday 8 A. M. ..... Spring term begins
April 19, Saturday ..... Holiday, Patriots' Day
May 30, Friday ..... Holiday, Memorial Day
June 6-9, Friday-Monday ..... Commencement
October 6, Monday ..... Freshman Registration
October 7, Tuesday ..... Senior Registration
October 8, Wednesday, 8 A. M. ..... Fall term begins for seniors
October 13, Monday ..... Holiday, Observance of Columbus Day
November 11, Tuesday ..... Holiday, Armistice Day
November 26 December 1, Wednesday, 12 M.—
Monday, 8:00 A. M. ..... Thanksgiving Recess
December 20, Saturday, 6 P. M. ..... Fall term ends

1931

January 4, Monday 8:00 A. M. ..... Winter term begins

STAFF

Officers of General College Administration

ROSCOE W. THATCHER, D.Agr., LL.D.
President of the College

WILLIAM L. MACHMER, A.M.
Dean of the College

ROBERT D. HAWLEY, B.S.
Secretary of the College

FRED C. KENNEY
Treasurer of the College

BASIL B. WOOD, A.B.
Librarian of the College

ROLAND H. VERBECK, B.S.
Director of Short Courses

ADVISORY COMMITTEE

President ROSCOE W. THATCHER
Director ROLAND H. VERBECK

Professor RALPH A. VAN METER, *Chairman*
Professor CHARLES H. THOMPSON
Assistant Professor LUTHER BANTA
Assistant Professor GUY V. GLATFELTER
Assistant Professor ROLLIN H. BARRETT
Assistant Professor S. CHURCH HUBBARD
MR. HAROLD W. SMART
MR. HARRY G. LINDQUIST
MR. RANSOM C. PACKARD
Secretary ROBERT D. HAWLEY

The Faculty of Instruction

LORIN E. BALL, B. S. ..... 3 Allen Street
Instructor in Physical Education
LUTHER BANTA, B.S. .....
Assistant Professor of Poultry Husbandry
ROLLIN H. BARRETT, M.S. ..... 4 Chestnut Street
Assistant Professor of Farm Management
E. W. BELL, M.S. .....
Instructor in Agricultural Economics
ALEXANDER E. CANCE, Ph.D. ..... 9 Fearing Street
Professor of Agricultural Economics and Head of Department
WALTER W. CHENOWETH, A.B., M.S. ..... North Amherst
Professor of Horticultural Manufactures and Head of Department
LAWRENCE S. DICKINSON, B.S. ..... 2 Farview Way
Assistant Professor of Horticulture
BROOKS D. DRAIN, B.S. ..... 17 Fearing Street
Assistant Professor of Pomology

CLAYTON L. FARRAR, B.S. ..... 8 Hallock Street
Instructor in Entomology and Beekeeping
JULIUS H. FRANDSEN, B.S.Agri., M.S. ..... 37 Lincoln Avenue
Professor of Dairying and Head of Department
ARTHUR P. FRENCH, M.S. ..... 4 Chestnut Street
Instructor in Pomology
GEORGE E. GAGE, Ph.D. ..... The Davenport
Professor of Bacteriology and Physiology, Head of Department
GUY V. GLATFELTER, M.S. ..... 29 Northampton Road
Assistant Professor of Animal Husbandry
EMORY E. GRAYSON, B.S. ..... 37 Cottage Street
Supervisor of Placement Training
FRANCIS P. GRIFFITHS, B.S. .....
Instructor in Horticultural Manufactures
LAURENCE R. GROSE, A.B., M.F. ..... 45 Amity Street
Professor of Forestry and Head of Department
CHRISTIAN I. GUNNESS, B.S. ..... 105 Butterfield Terrace
Professor of Agricultural Engineering and Head of Department
MARGARET HAMLIN, B.A. ..... 12 North East Street
Agricultural Counselor of Women
CURRY S. HICKS, B.Pd. ..... Sunset Avenue
Professor of Physical Education and Hygiene and Head of Department
MRS. CURRY S. HICKS ..... Sunset Avenue
Instructor in Physical Education
SAMUEL C. HUBBARD ..... North Amherst
Assistant Professor of Floriculture
HELEN KNOWLTON, A.M. ..... 25 Fearing Street
Assistant Professor of Home Economics
HAROLD R. KNUDSEN, B.S. ..... Eames Avenue
Instructor in Agronomy
JOHN B. LENTZ, A.B., V.M.D. ..... 3 Dana Street
Professor of Veterinary Science and Head of Department
HARRY G. LINDQUIST, M.S. ..... 66 Pleasant Street
Instructor in Dairying
ADRIAN H. LINDSEY, M.S. .....
Professor of Agricultural Economics
WAYNE J. LOWRY, B.S. ..... 53 Lincoln Avenue
Instructor in Horticulture
MINER J. MARKUSON, B.S. ..... 2 Tyler Place
Assistant Professor of Agricultural Engineering
MERRILL J. MACK, M.S. ..... 32 North Prospect Street
Assistant Professor of Dairying
JOHN B. NEWLON ..... North Amherst
Instructor in Agricultural Engineering
RANSOM C. PACKARD, B.S.A. ..... North Amherst
Instructor in Bacteriology
GEORGE F. PUSHEE ..... North Amherst
Instructor in Agricultural Engineering
VICTOR A. RICE, M. Agri. ..... 35 Woodside Avenue
Assistant Professor of Animal Husbandry
OLIVER C. ROBERTS, B.S. ..... 10 Nutting Avenue
Instructor in Pomology
DONALD E. ROSS, B.S. ..... 27 South Prospect Street
Foreman, Department of Floriculture
WILLIAM C. SANCTUARY, B.S. ..... 19 Phillips Street
Professor of Poultry Husbandry
FRED C. SEARS, M.S. ..... Mount Pleasant
Professor of Pomology and Head of Department
EDNA L. SKINNER, M.A. ..... 30 Fearing Street
Professor of Home Economics, Head of Department and Advisor of Women
HAROLD W. SMART, LL.B. ..... 50 Pleasant Street
Instructor in Business Law, Business English and Rural Sociology
GRANT B. SNYDER, B.S.A. ..... 50 Pleasant Street
Assistant Professor of Vegetable Gardening and Head of Department
WILLIAM H. TAGUE, B.S. ..... 22 Cottage Street
Assistant Professor of Agricultural Engineering
CHARLES H. THAYER ..... South East Street
Instructor in Agronomy
CLARK L. THAYER, B.S. ..... Mount Pleasant
Professor of Floriculture and Head of Department
CHARLES H. THOMPSON, M.S. ..... Mount Pleasant
Professor of Horticulture
MARION L. TUCKER, B.S. ..... 7 Nutting Avenue
Assistant Professor of Home Economics
RALPH A. VANMETER, B.S. ..... North Amherst
Professory of Pomology
JOHN H. VONDELL ..... Fearing Street
Foreman of Poultry Plant and Instructor in Poultry Husbandry

Instructor in Vegetable Gardening

THE STOCKBRIDGE SCHOOL OF AGRICULTURE

A Two-Year Course in Practical Agriculture

The Stockbridge School of Agriculture was organized in 1918 to meet the demand for a short course in agriculture that might be taken by students who either did not possess college entrance requirements, or who, for one reason or another, were unable to take the four-year college course.

In May 1928, by vote of the trustees of the College, the name was changed from "The Two-Year Course in Practical Agriculture" to "The Stockbridge School of Agriculture". This change, it is expected, will more clearly emphasize the distinction between the degree courses and the non-degree courses offered by the College, and will correct the impression that students completing this course have completed two years of the college course. Graduates of The Stockbridge School of Agriculture are not eligible for entrance in the College and their school credits are not accepted as college credits.

Since its organization, at the request of the Massachusetts Legislature, the Two-Year Course in Practical Agriculture has registered over 1,000 students. There are now over 500 graduates of the course. Practically all of these are in Massachusetts or in New England, but graduates of the course are to be found in Florida, California, and many other states of the Union. More than 200 students registered in the School during the past year.

The growth of the course and the demand for more specific vocational training made necessary a reorganization of the work in 1921. As now arranged the student may specialize in one of seven vocations,—animal husbandry, dairy manufactures, floriculture, horticulture, pomology, poultry and vegetable gardening. This specialization does not prevent his securing a general working knowledge of other subjects.

The Stockbridge School will appeal not only to young men and women, but also to men and women of mature years and practical experience who wish to know more about the business of farming or associated agricultural industries.

AGRICULTURAL PLACEMENT

The work of placing students for apprentice training is in charge of the supervisor of placement training. (1) positions are secured that will enable a student to gain practical experience in his particular vocation; (2) a student desiring placement on his home farm may arrange for such assignment if the supervisor approves. As a rule, it will be found better for a student to spend this six months away from the home farm, even though he plans to be employed on the home farm after finishing the course. This statement is based on the experience of students who have already taken the course.

If credit is to be secured for the six months' placement training the following conditions must be carefully observed: (1) the student must interview the supervisor early in his first year in order that his qualifications, the type of farming he wishes to pursue, and his general fitness may be determined; (2) no arrangement for placement training may be made by the student himself until the supervisor has been consulted; (3) students are required to complete their period of training without unnecessary absences; (4) no transfers are to be made by a student, if he is to receive credit, until permission has been had from the supervisor; (5) a position may not be given up by the student until the supervisor has been notified; (6) a monthly report must be furnished on the form supplied, and submitted not later than the fifth of each month during his training period; (7) a student whose grade of work is regularly poor (below a 70 rating) in the classes of his major subject will not be eligible for placement training, unless recommended by the department in charge of his major work; (8) when a student fails to complete the requirements of his placement training with a satisfactory grade, he is not allowed to take the work of the second year; (9) all male students are given a thorough physical examination by the Department of Physical Education at the beginning of the college term. Any disabilities liable to affect the student's placement work are noted, and, if of a serious nature, recommendations for corrective measures are supplied. Parents should understand that most kinds of agricultural work require a well-balanced combination of brawn and brain. No student whose physical condition is questionable will be accepted for placement training without a physician's certificate, and parent's approval.

It should be clearly understood by both employer and employee that the same energy, regularity and general conduct will be expected of the student during his period of placement training as is expected in his work in classes and on the campus.

It should also be noted that this six months' experience is educational in its nature. Students are expected to earn and receive a reasonable wage, but the purpose of the training is the experience gained rather than the wage earned. The scale of wages may vary in different localities, but each man's ability is given very careful thought, that he may obtain a wage that is fair to him. In the event of any misunderstanding the supervisor should be immediately informed.

RULES AND REGULATIONS

Absences from Class

(1) No unexcused absences will be allowed from classes. (2) all excuses for absence shall be presented by the student in writing, and, if approved by the Director, an excuse card will be granted to be signed by the instructor. Excuse cards must be returned promptly to the office when properly signed. (3) Students presenting excuse cards covering absences are expected to make up all work missed, to the satisfaction of the instructor. (4) Absences for which no excuse card is presented shall be counted as zero in determining grades. (5) **No excuses will be accepted at the Short Course office unless presented within two days after the student returns to classes. (6) Two tardinesses unexcused shall count as one absence. (7) Absences from classes immediately before or after a holiday are not allowed except by special permission. (8) Students failing to observe these rules are placed on probation, and may be asked to withdraw from the course if further violations occur.**

Absences from Examinations or Tests

(1) Any student who absents himself from an appointed examination without sufficient cause shall be given zero thereon. In such case he shall not be entitled to a make-up examination unless the Director so requests. A previously announced test may, at the discretion of the instructor, be regarded as a test or as an examination.

(2) Every absence taken before enrollment (the signing of the registration card by the teacher) in a class will be counted.

General Information

INSTRUCTION.—The instruction is given by the regular faculty by means of classroom teaching, laboratory exercises and practical work. The work of the classroom is supplemented by demonstration work in the laboratory, dairy room, greenhouse and stables. It is designed to offer plain, practical, direct information, and to establish the underlying reasons as well as the method employed in the various operations. The advantages of the college staff of specialists and the college plant with all its resources are thus made available to young men and women electing this course.

Entrance Conditions.—Students must be seventeen years of age or over and have completed at least an elementary school course or its equivalent. They must have completed six months' practical experience approved by the supervisor of placement training before they will be permitted to enroll for the work of the second year.

The Stockbridge School of Agriculture is not intended for students already enrolled in high schools. Such students should finish the high school course. Students enrolled in high schools who wish to take the course should bring a statement, either from the principal of the high school or from the parent or guardian, requesting enrollment.

Graduates of county schools of agriculture or of agricultural departments of high schools may complete the course for a diploma in one year, if they are recommended by the Director of the school or the agricultural instructor.

Scholarship in agricultural subjects and practical experience must be satisfactory. When this is deficient, the diploma may be withheld until the placement training of six months is completed for required credits.

Credit and Diploma.—In order to obtain a diploma a student is expected to have satisfactorily completed all the work called for in the general course which

he has selected. A student failing to meet the requirements in his six months' summer training cannot be enrolled for his second year.

A credit is given for one class hour, of either recitation or lecture, per week throughout a term of twelve weeks. Each two-hour laboratory period also counts for one credit. Upon the satisfactory completion of the course, the student is awarded the diploma of the School. **A diploma will not be issued to any student whose records shows a deficiency in any subject or in his placement training.**

Scholarship.—At the close of each term students receive a formal report showing the standings given in the subjects pursued by them. If a student is below passing grade in 50 per cent, or more, of his work he may be asked to withdraw.

If a student's term mark in any subject falls below 60 per cent, or if he drops a course without the consent of the Director, he is thereby failed (F) in that subject. He shall be debarred from taking the final examination in that subject and must repeat it with the following class.

If the average of the term mark and the final examination is below 60 per cent, the student is thereby conditioned (#).

How to Enroll.—Each student is required to file with the treasurer of the college a statement, signed by the town (or city) clerk of the town (or city) from which he enrolls, stating that the parent or guardian of the student is a resident of that town. A blank for this purpose is inserted at the end of this catalogue. Upon arrival report at the office of the Director of Short Courses, located in South College, where information may be obtained in regard to board and room, schedule of classes, etc.

Student Expenses

Tuition.—A tuition fee of $20 per term is charged students, residents of Massachusetts, enrolled in the Stockbridge School of Agriculture. Students who are not residents of Massachusetts are charged a tuition fee of $60 a term. The tuition charged persons not citizens of the United States is $60 a term. **Students entering from Massachusetts are required to file with the President a statement signed by either town or city clerk, stating that the applicant's father is a legal resident of Massachusetts.**

All students entering the college for the first time in this course are charged a matriculation fee of $5, which, in event of a student leaving the institution shall, if all bills due the college are paid, be remitted, or which shall upon graduation be considered as payment for the diploma.

The necessary college expenses are estimated as follows:—Tuition: citizens of Massachusetts, $20 per term, or $40 for the first six months of class work (two terms), and $60 for the second year of nine months (three terms); total tuition charge for the two-year course, $100.

	First Year	Second Year	Total
Matriculation fee	$5 00	—	$5 00
Room in private houses	72 00	$108 00	180 00
Board at college dining hall, $7.50 per week	165 00	235 00	400 00
(Men students of the Stockbridge School are not required to eat at the College dining hall.)			
Laundry, $.50 to $.85 a week	20 00	30 00	50 00
Laboratory fees, average	10 00	15 00	25 00
Books, stationery, and miscellaneous items	30 00	45 00	75 00
Totals	$302 00	$433 00	$735 00
Mass. Student tuition	40 00	60 00	100 00
Grand Total	$342 00	$493 00	$835 00

Initial Charges

At the opening of the college year, before students are registered in their classes the following charges are payable at the treasurer's office.

Matriculation fee	$5 00	—
Board (at college dining hall) October 2 to December 1	61 00	$61 00
Assessment for support of Social Union	1 50	1 50
Laboratory fees	See schedule	See schedule
Student tax for support of athletics[1]	15 00	15 00
Student tax for support of non-athletic activities[1]	3 00	3 50

[1]While this is not essentially a college charge, the Treasurer of the college acts as collector for the student activity, and all students are expected to make the payment as indicated. The subscription price of the "Collegian" is fixed by the managers, the amount of athletic tax by vote of the student body.

Laboratory Fees

The principles observed in establishing laboratory fees are the requirement that students pay for those materials actually used which cannot be supplied by the individual, and that the laboratory fees include a charge sufficient to guard against wanton waste and breakage. Fees may be established for any course without previous announcement. At present the fees charged are as follows:—

	Per Term
Agricultural Engineering S-1, S-2, S-3, S-4, S-5, S-6, S-7	$1 50
Animal Husbandry S-1, S-5	1 50
Animal Husbandry S-4	1 00
Bacteriology S-2	5 00
Dairying S-1, S-2, S-3, S-4	3 00
Flower Growing S-3, S-5	3 00
Flower Growing S-6	5 00
Home Economics S-2	4 00
Horticulture S-1	1 00
Horticulture S-5, S-6, S-7	1 50
Poultry S-1, S-2, S-3, S-4, S-5	2 00
Soils and Crops S-1	1 50
Soils and Crops S-2	2 00
Vegetable Gardening S-1, S-2	1 50

The six months' placement training between the first and second years enables a student to earn from $300 to $450 depending upon his skill and general ability, and the type of work. Of this amount $200 to $300 should be saved to apply to the expenses of the second year.

Prospective students should understand that the above estimates cover expenses which may be called strictly college expenses, and that there are other financial obligations voluntarily placed upon students which they should expect to meet. Chief among these are class assessments and taxes levied for maintenance of various organizations, such as the Social Union, Athletic Association, weekly publications, etc. Such expenses vary from $15 to $30 a year. Additional financial responsibility is also assumed by students joining clubs or entering into other social activities of the college. Besides the amount necessary for clothes and traveling, the economical student will probably spend between $400 and $500 per year.

Student Aid

Self Help.—Many students are obliged to find work of some sort to earn their way through college. It is recommended that no new student enter without having at least $250 and preferably $350 with which to pay his way until he can establish himself in some regular work. **The college does not encourage students to enter without money in the expectation of earning their way entirely.** The student will find it better either to work and accumulate money before coming to college, or to take more than two years in completing his course, or, instead, to borrow money sufficient to carry him through. No student should undertake work that interferes with his studies, and students should understand that, owing to the large number of applications for employment, no one man can receive a large amount of work at the college. A number of students find opportunities for earning money without depending upon the college to furnish them with work.

Students whose deportment or class work is not satisfactory are not likely to be continued in student labor. **Opportunities for labor for Short Course men on the campus are limited to second-year men.** Students, therefore, may find it rather difficult to obtain all the work they desire during their first year; as a matter of fact, however, any student who is capable of doing a variety of things, and who is a competent workman, usually finds little difficulty in obtaining all the work that he can do from the outset.

Rooms

Students must secure rooms approved by the college. The assignment of rooms, and the general supervision of the housing of students, is in charge of the Director of Short Courses.

Women students are expected to occupy rooms in the college dormitory and such houses or apartments as the college may provide, and board at the college dining hall. No woman student will be allowed to room in a private house without special permission from the Director.

General Exercises

Chapel exercises are held two mornings each week. On Wednesday an afternoon assembly is held, to which some prominent layman or professional man is invited to speak. The object of these assemblies is to bring to the students discussions of topics of present-day interest. A special chapel service on Sunday is usually held during the winter months. Students are required to attend these general exercises, although the Director is authorized to excuse from Sunday chapel any student who may object to attendance thereon because of his religious scruples. Freshmen must attend during the first term.

Student Activities

A large number of student organizations furnish opportunity to students for work and leadership.

The Massachusetts Agricultural College Social Union was established about fifteen years ago. All students become members of the Union by paying a small fee, and in the fall and winter months the Union gives a series of entertainments, free to students and faculty. The Memorial Building is the center of student activities. Offices for the various student organizations, including the Stockbridge School Student Council, are maintained in this building. On the first floor are located a lounging room, the Memorial Room, and the offices; in the basement, bowling alleys, pool tables, store, post office, and barber shop; and on the second floor an auditorium for meetings and dances. This building was erected by the alumni, students, faculty, and friends in honor of the fifty-one "Aggie" men who gave their lives in the World War.

The Young Men's Christian Association is active both socially and religiously.

The Stockbridge School Council is composed of representatives of the first and second year classes. This body serves as general director of conduct in classes, and represents before the faculty the interests of this group of students.

A student year-book called "The Shorthorn" is published annually by the members of the graduating class, and is usually issued in June.

A School Glee Club brings together during the winter months those who are interested in singing, and for those students who play musical instruments there is a School Orchestra.

In the place of fraternities the faculty have authorized social organizations called "clubs" in the Stockbridge School. There are two such organizations in the student body, the A. T. G. Club and the Kolony Klub.

Athletics.—The School has its own separate athletic program with regular schedules in football, basketball, ice hockey, and baseball for the seniors. Freshman are on placement training during the spring term so that only seniors are available for baseball. This work is all under the supervision and direction of the Department of Physical Education of the College and coaches are provided for all sports. Students also subscribe to the College varsity games and have attendance privileges for varsity sports on the campus. Sweaters and insignia are awarded to Stockbridge School athletic teams. The official insignia is the letter S.

Plans are under way to secure funds for a new building to house all athletic activities of the College. Ample facilities will then be provided to carry on a very complete program of sports and recreation for Stockbridge School students.

Student Relations

The customary high standard of college men in honor, manliness, self-respect, and consideration for the rights of others constitutes the standards of student deportment.

Any student known to be guilty of dishonest conduct or practice must be reported by the instructor to the President for discipline.

The privileges of the college may be withdrawn from any student at any time if such action is deemed advisable.

It should be understood that the college, acting through its President or any administrative officer designated by him, distinctly reserves the right not only to suspend or dismiss students, but also to name conditions under which students may remain in the institution. For example, if a student is not doing creditable

work he may not only be disciplined but he may be required to meet certain prescribed conditions in respect to his studies, even though under the foregoing rules his status as a student be not affected. The same provision applies equally to the matter of absences.

Similarly, also, it applies to participation in student activities. Though this will ordinarily be governed by the rules as already laid down, yet if in the judgment of the college authorities a student is neglecting his work on account of these activities, the privilege of participating in them may be withdrawn for such time as is considered necessary. Moreover, it may be withdrawn as a punishment for misconduct.

Infirmary

The college maintains an infirmary for the care of sick or injured students. The buildings now available for this purpose are quite inadequate for the needs of the institution, and it is hoped that in the near future other buildings of this kind may be erected and the general equipment somewhat amplified. At present two small buildings, built especially for hospital purposes, are used for the infirmary.

The following statement outlines the plan followed in the management of the infirmary with respect to students:—

Management of the Infirmary

Supervision

1. The infirmary is under the *general supervision* of Professor Curry S. Hicks, who is designated as Supervisor of the Infirmary. A resident nurse is in *immediate* charge of the Infirmary.

Use of Infirmary

2. Students are urged to go to the infirmary at any time that they are in need of the services rendered by the resident nurse or by a town physician. Inasmuch as the physical director gives special attention to all student diseases, it is to be expected that the majority of the students will go to the infirmary at his suggestion. This understanding, however, should in no way deter students from going to the infirmary voluntarily at any time.

General Health

3. Students are urged to consult the physical director or the resident nurse immediately when signs of physical disorder appear. Severe attacks of cold or other forms of illness can usually be avoided if treatment is administered in the incipient stage. The purpose of the infirmary is to help maintain the general good health of the students, as well as to furnish a suitable place for professional attention in cases of severe illness or accidcent.

General Fee

4. The infirmary fee will be at the rate of $2 a day, and will be charged when one or more meals are obtained at the infirmary or when the student remains at the infirmary for one or more nights. A nominal charge will be made to outpatients for miscellaneous treatment of a minor character.

Additional Expenses

5. In addition to the fee charged as specified in paragraph 4, the following additional expenses will be charged to the patient:—

(*a*) *Nurses.*—In case a special nurse is required for the proper care of an individual, the services and board of this nurse will be paid by the patient. Such a nurse will be under general supervision of the resident nurse.

(*b*) *Professional Service.*—If a student requires medical attention by a physician, he will be required to select his physician and become responsible for fees charged by the physician.

(*c*) *Supplies.*—Special medical supplies prescribed by a physician or nurse will be charged to the patient.

(*d*) *Laundry.*—Expense for personal laundry incurred by students while in the infirmary will be charged to the individual student.

The Library

The College Library occupies the entire building formerly partly occupied by the chapel. It contains more than 81,300 bound volumes and a very large collection of pamphlets, probably twice as numerous, which are of great practical value, being monographs on the technical subjects studied in the college. These pamphlets include particularly the publications of the United States Department of Agriculture and those of the State Experiment Stations of other Agricultural colleges in this country and abroad. Among the bound volumes, works on agriculture, horticulture, botany, entomology and the various sciences connected especially with agriculture predominate, but literature, history, economics, religion, sociology and art are also well represented. More than six hundred periodicals covering technical and general subjects, and including the best farm papers, are regularly taken and both the current numbers and the back files are readily accessible.

The Library is open for readers from 8 A. M. to 10 P. M. during term time and during part of Sunday. Vacation hours are somewhat shorter.

Short Course Students will find in the Library helpful material of many sorts in connection with their work, and are cordially invited to make use of this material. The librarian and library assistants are always on hand, ready and anxious to help.

Agricultural Opportunities for Women

Agriculture is a field in which women are finding increasingly good opportunities. Poultry keeping, fruit growing, floriculture, dairying, truck farming, general farming,—all offer favorable openings for women. In all of these branches of agriculture women are farming independently. Women are also filling paid positions which include farm and estate managers and workers, garden supervisors, and workers in boys' and girls' agriculture clubs.

For the woman or girl whose home is already upon the farm the opportunity is exceptionally good. With the help of an agricultural education there are open to her many means of increasing her own or the farm income. With the knowledge of farm life which she already possesses, and with the possibility of securing occasional help from her family, she can easily carry on and develop a profitable enterprise of her own. The Stockbridge School of Agriculture will afford to the women who wish to engage in farming the practical training which they will need to fit them for their work, and will open to them new doors of opportunity. The particular problems which the women engaged in farming will have to meet, and the special lines of farming in which they will have favorable opportunities, will be considered in a series of conferences.

Women who are interested in taking agricultural courses should correspond with Miss Margaret Hamlin, who acts as advisor for agricultural courses for women. Women interested in home economics should address Professor Edna L. Skinner.

Positions

The College does not guarantee positions to students registered in any of its courses, but it has an opportunity to recommend students for a large number of positions. A record is kept of each student's work and experience, and of his success in positions for which he has been recommended after he has finished his course. The opportunities for trained men and women, especially those who have had farm experience, are exceptionally good.

A student desiring a recommendation from the college must meet the following conditions:—

(1) He must be of good character.
(2) His previous record must be good.
(3) His work in all courses must be satisfactory.

Students who have not previously had a considerable amount of practical experience cannot, as a rule, be recommended for positions of responsibility. This is especially true of the better positions for which managers or superintendents are wanted.

ANIMAL HUSBANDRY

The Animal Husbandry major fits students to cope with the practical prob-

lems of live stock production and management. It supplements and supports but does not duplicate or replace the necessary experience gained only through actual manual work in caring for animals. As a foundation, the study of breed history, live stock trends, animal anatomy and physiology is required. Special attention is given to physiological processes in breeding and feeding. Later courses show how these processes actually function under the stockman's guidance.

A herd of about 200 dairy cattle including Ayrshires, Guernseys, Jerseys, Holsteins and Milking Shorthorns, a band of about a dozen Percheron brood mares, a flock of about 60 Southdown and Shropshire sheep and a herd of about 50 Berkshire and Chester White swine together with the modern barns and equipment for housing and caring for the above live stock and a farm of several hundred acres used primarily for the production of feed crops gives ample scope for illustrating and giving practice in modern methods of live stock handling. The farm and barns are our laboratory; the animals and accessories our equipment.

Graduates from the Animal Husbandry major for the most part secure positions as herdsmen or farm managers.

Animal Husbandry

First Year

Fall Term	Winter Term	Spring Term
Agricultural Opportunities S-1 (Required of women students)	Agricultural Engineering S-2 (Motors)	Six months' placement training
Animal Husbandry S-1 (Types and Breeds)	Animal Husbandry S-2 (Principles of Feeding)	
Bacteriology S-1 (Bacteriology and Rural Hygiene)	Bacteriology S-2 (Continuation of Bacteriology S-1)	
Business Law S-1	Business Law S-2 (Continuation of Business Law S-1)	
Dairy S-1 (General Dairy)	Soils and Crops S-2 (Fertilizers)	
Poultry Raising S-6 (General course in Poultry Raising)	Physical Education S-2 (Required of women students)	
Soils and Crops S-1 (Soil Management)	Milking, Harnessing and Teaming	
*Physical Education S-1		
Physical Education S-3 (Hygiene—required of men students)		
Tractor Practice		
Electives	**Electives**	
English S-1 (Required of students having less than two years of High School)	Home Economics S-2 (Foods)	
Home Economics S-5 (Home Furnishing)	Physical Education S-4 (Basketball and Hockey)	
*Physical Education S-1 is required of men students not participating in football; also required of women students.		

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Economics S-1 (Farm Economic Problems)	Agricultural Economics S-2 (Marketing)	Animal Husbandry S-5 (Dairy Cattle Production and Equitation)
Agricultural Engineering S-1 (Farm Engineering)	Animal Husbandry S-4 (Animal Breeding and Herd Book Study)	Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Agricultural Engineering S-3 (Carpentry)	Farm Management S-2 (Continuation of Farm Management S-1)	Soils and Crops S-3 (Field Crops)
Agricultural Engineering S-7 (Farm Structures)	Fruit Growing S-10 (General course in Fruit Growing)	Vegetable Gardening S-6 (Principles of Vegetable Growing)
Animal Husbandry S-3 (Feeding Practice in Live Stock other than Dairy Cattle)	Rural Sociology S-1 (Social and Economic Problems)	Veterinary Science S-1 (Animal Sanitary Science)
Farm Management S-1 (Farm Management and Accounts)		
Physical Education S-2 (Required of men students not participating in football)		
Electives	**Electives**	**Electives**
Physical Education S-3 (For women)	Animal Husbandry S-7 (Farm Meats)	English S-3
	Forestry S-1 (Woodlot Management)	Physical Education S-5 (Baseball)
	Physical Education S-4	

Animal Husbandry S-1. (Types and Breeds.) I.

Includes a study of the history and development of the various breeds of cat-

tle, horses, sheep and swine together with a discussion of the conditions to which each breed seems best adapted. Laboratory work consists of judging and evaluating as many rings of all the classes of farm live stock as time will permit. Textbook: Plumb, "Types and Breeds of Farm Animals."
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-2. (Principles of Feeding.) II.

A study of the fundamental principles of animal nutrition, of the composition of feeding materials and their relative importance for the different classes of farm animals in New England. The latter part of the course is devoted to a study of feeding standards and to the calculation of rations for all classes of farm live stock. Textbook: Henry and Morrison, "Feeds and Feeding."
5 class hours a week. Credits, 5.

Animal Husbandry S-3. (Feeding Practice in Live Stock other than Dairy Cattle.) I.

A continuation of S-2 showing the application of the principles of nutrition in economic live stock production and including the management and feeding of horses, beef cattle, sheep and swine. Feeding and managerial problems are assigned for outside work followed by ample classroom discussions. Prerequisites: Animal Husbandry S-1 and Animal Husbandry S-2. Textbook: Henry and Morrison, "Feeds and Feeding."
5 class hours a week. Credits, 5.

Animal Husbandry S-4. (Animal Breeding and Herd-Book Study.) II.

Includes a study of the physiology of reproduction and of animal genetics as well as the art of breeding. Among the topics included are the Origin and Domestication of Farm Animals; Modern Theories of Heredity, Variation and Sex Determination; the Systems of Breeding—Cross-, Out-, Line-, and Close-Breeding; and the one paramount problem of animal breeding, namely, Selection. Considerable pedigree work in the student's favorite breed is also included. Prerequisites: Animal Husbandry S-1 and Animal Husbandry S-2. Textbook: Rice, "Breeding and Improvement of Farm Animals."
4 class hours and 1 2-hour laboratory period a week. Credits, 5.

Animal Husbandry S-5. (Dairy Cattle Production and Equitation.) III.

Seven weeks of the term will be devoted to the consideration of matters pertaining to the feeding, fitting for show and showing, judging and management of dairy cattle. Problems will be assigned for outside work followed by classroom discussions. There will be talks by specialists and laboratory work in judging and fitting for show and showing.

The last three weeks of the term will be devoted to lectures covering the feeding, selection and management of riding or cavalry horses and practice in riding. The riding practice will consist of drills on the military field and cross-country trips by arrangement with the military department. Prerequisites: Animal Husbandry S-1, Animal Husbandry S-2, Animal Husbandry S-3, Animal Husbandry S-4.
5 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-6. (General Animal Husbandry.) II.

Consists of a general study of animal husbandry; types and market classes of live stock, breeds of farm animals, principles and practice of feeding, live stock breeding; and management of herds, flocks and studs. Laboratory work is given in live stock judging and management. As much detail of this broad subject is given as is consistent with time allotted. Textbook: Plumb, "A Study of Farm Animals."
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Animal Husbandry S-7. (Farm Meats.) II.

This course is the complement of the production course previously given and permits the student to follow the product (beef, pork, veal and lamb) through the farm barn and feed lot to its final destination, the consumer's table. Practice is afforded in the killing, cutting and curing of beef, pork, veal and lamb. Included in this course is a trip to several large packing houses in Boston, consuming

two days and costing about $20. Prerequisites: Animal Husbandry S-1, Animal Husbandry S-2, Animal Husbandry S-3. Textbook: Tomhave, "Meat and Meat Products."

1 class hour and 1 4-hour laboratory period a week. Credits, 3.

NOTE.—Every student in this course must qualify in tractor practice, milking, harnessing, and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put in placement training who has not satisfied these preliminary requirements.

DAIRY MANUFACTURES

The Dairy Manufactures course is designed to fit men for positions with market milk concerns, creameries, ice-cream factories, and specialized dairy farms.

All dairy manufacturing work is given in the dairy building (Flint Laboratory), a modern building designed especially for dairy work. The building is equipped with the newest and best types of dairy and creamery machinery.

The market milk room contains two complete pasteurizing units, a clarifier, separator, milk heater, automatic bottle filler and capper, and other necessary equipment for the proper handling of market milk.

The ice-cream making room contains a brine freezer, a direct expansion freezer, and additional equipment such as is found in a modern ice-cream plant.

The room designed for cheese making is equipped with cheese vats, draining racks, presses, mixer, etc. The butter making room has various types of hand and power churns, workers, scales, and other accessories.

The separator room contains a complete collection of separators and exhibits of modern equipment and supplies for the dairyman.

The testing laboratories are well equipped with apparatus for the Babcock and Mojonnier tests.

Dairy Manufactures

First Year

Fall Term	Winter Term	Spring Term
Agricultural Opportunities S-1 (Required of women students)	Agricultural Engineering S-2 (Motors)	Six months' placement training
Animal Husbandry S-1 (Types and Breeds)	Animal Husbandry S-2 (Principles of Feeding)	
Bacteriology S-1 (Bacteriology and Rural Hygiene)	Bacteriology S-2 (Continuation of Bacteriology S-1)	
Business Law S-1	Business Law S-2 (Continuation of Business Law S-1)	
Dairy S-1 (General Dairy)	Soils and Crops S-2 (Fertilizers)	
Soils and Crops S-1 (Soil Management)	Physical Education S-2 (Required of women students)	
*Physical Education S-1		
Physical Education S-3 (Hygiene—required of men students)		
Electives	**Electives**	
English S-1 (Required of students having less than two years of High School)	Home Economics S-2 (Foods)	
Home Economics S-5 (Home Furnishing)	Physical Education S-4 Basketball and Hockey)	

*Physical Education S-1 is required of men students not participating in football; also required of women students.

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Economics S-1 (Farm Economic Problems)	Agricultural Economics S-2 (Marketing)	Agricultural Engineering S-5 (Dairy Mechanics)
Bacteriology S-3 (Dairy Bacteriology)	Dairy S-3 (Market Milk)	Dairy S-4 (Butter making and other products)
Dairy S-2 (Ice Cream Making)	Farm Management S-2 (Continuation of Farm Management S-1)	Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Farm Management S-1 (Farm Management and Accounts)	Rural Sociology S-1 (Social and Economic Problems)	Veterinary Science S-1 (Animal Sanitary Science)
Physical Education S-2 (Required of men students not participating in football)		**Electives**
Electives	**Electives**	English S-3
Physical Education S-3 (For women)	Physical Education S-4	Physical Education S-5 (Baseball)

Ice Cream Making

A Class in Cooking

Dairy S-1. (General Dairy.) I.

This course takes up the question of the importance of dairying in the United States, and especially in the New England States, giving the development of dairying from the earliest to the present time. It covers the secretion, composition, and properties of milk; reasons for variation in the per cent of fat in different samples of milk; the Babcock test for fat in milk and other dairy products; other common milk tests; the advantage of testing herds, cow test associations, advanced registry work; the handling of market milk; soft cheese making, ice-cream making, and butter making as applied to general farm conditions. The laboratory work consists mainly in testing milk and dairy products for butter fat, solids, and acidity, together with some laboratory work in milk handling, butter making, cheese making, and ice-cream making.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Dairy S-2. (Ice-cream Making.) I.

In this course a careful study is made of modern methods of manufacturing the common frozen dairy products (ice-cream, sherbets, and ices, also frozen puddings, punches, mousses, etc.).

The lecture work includes a discussion of the history of ice-cream making, the ingredients found in ice-cream, methods of preparing and standardizing mixes, the freezing process, methods of hardening, marketing, and distribution of the finished product.

The laboratory work involves the preparation and standardization of ice-cream mixes, the freezing of ice-cream and other frozen dairy products, and laboratory tests for butter fat and total solids in ice-cream.
4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

Dairy S-3. (Market Milk.) II.

This course takes up the history of market milk, its food value and use. Attention is given to the necessary essentials in producing a clean product; the economics of milk production; the advantages of co-operative milk producers' organization; the various methods of marketing milk; clarification; pasteurization; cooling, etc.

The laboratory work consists of receiving and making quality tests on milk and the operation of the machinery used in processing market milk. In addition, trips to dairy farms and a one-day trip, with estimated cost of $5.00, will be made to city milk plants.
4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

Dairy S-4. (Butter Making and Other Dairy Products.) III.

A large part of this course consists of the study of butter making; other products are, cheese and "surplus products."

Under butter making the principal factors studied are: methods of separating milk, the history, selection, care, and use of separators; the pasteurization and ripening of cream; testing cream for acidity; the making and use of starters; a study of churns and churning; modern methods of making butter; marketing butter; tests for moisture, salt, fat, and curd content of butter.

Lectures are given covering the manufacture of other milk products (cheese, commercial buttermilk, casein, condensed milk, milk powder, etc.). The manufacture of hard and soft cheeses (cheddar, pimento, olive, nut, neufchatel, cottage, etc.) is considered, either from the standpoint of marketing the entire milk supply of the dairy through these products or the economic disposal of surplus milk.

The laboratory work covers the operation of separators and churns, the making of butter, hard and soft cheese, commercial buttermilk, etc. In addition, a one-day trip, with estimated cost of $5.00, will be made to city dairy plants.
4 class hours and 3 3-hour laboratory periods a week. Credits, 9.

POULTRY RAISING

Seven courses are offered by this department. One is a general course designed particularly to equip the student with fundamental principles under-

lying successful poultry raising as related especially to the farm flock. The other six courses are for the student who desires to specialize in poultry culture.

There is a broad field of opportunity for adequately trained men in the commercial handling and sale of poultry and poultry products, specialists in incubation, brooding and rearing, and assistants or managers of commercial poultry farms. Good profits and wages await well-equipped men and women in these and other branches of poultry work.

This department is well equipped to offer practical instruction in poultry husbandry. Our quarters and equipment in Stockbridge Hall provide ample facilities for efficient classroom and laboratory teaching.

Our practical laboratory (college poultry plant) comprises about 1,500 adult birds, divided into some 40 pens of various designs, the flocks ranging in size from 10 to 250 birds; thirty lamp incubators, as well as four mammoth machines; brooding and rearing facilities for 5,000 chicks, including many styles of coal, kerosene and electric brooders and batteries; facilities for practice in feeding, fattening, killing, picking, caponizing, judging, mixing rations; construction of poultry houses and appliances, etc.

In addition to the actual practice work performed, the student has an opportunity to keep under observation practical experiments and demonstrations continually under way for the instruction of students and practical poultry keepers.

Poultry Raising

First Year

Fall Term

Agricultural Opportunities S-1 (Required of women students)
Bacteriology S-1 (Bacteriology and Rural Hygiene)
Business Law S-1
Dairy S-1 (General Dairy)
Poultry Raising S-1 (Judging and Housing)
Soils and Crops S-1 (Soil Management)
*Physical Education S-1
Physical Education S-3 (Hygiene—required of men students)
Tractor Practice

Electives

English S-1 (Required of students having less than two years of High School)
Home Economics S-5 (Home Furnishing)

*Physical Education S-1 is required of men students not participating in football; also required of women students.

Winter Term

Agricultural Engineering S-2 (Motors)
Animal Husbandry S-6 (General Animal Husbandry)
Bacteriology S-2 (Continuation of Bacteriology S-1)
Poultry Raising S-2 (Incubating and Brooding)
Soils and Crops S-2 (Fertilizers)
Physical Education S-2 (Required of women students)
Milking, Harnessing and Teaming.

Electives

Business Law S-2 (Continuation of Business Law S-1)
Home Economics S-2 (Foods)
Physical Education S-4 (Basketball and Hockey)

Spring Term

Six months' placement training.

Second Year

Fall Term

Agricultural Economics S-1 (Farm Economic Problems)
Agricultural Engineering S-3 (Carpentry)
Agricultural Engineering S-7 (Farm Structures)
Poultry Raising S-3 (Feeding and Marketing)
Poultry Raising S-7 (Physiology, Sanitation and Disease Control)
Fruit Growing S-4 (Small Fruits)
or
Flower Growing S-1 (Garden Flowers and Bedding Plants)
Physical Education S-2 (Required of men students not participating in football)

Electives

Physical Education S-3 (For women)

Winter Term

Agricultural Economics S-2 (Marketing)
Agricultural Engineering S-4 (Repair of Farm Equipment)
Farm Management (Farm Management and Accounts)
Poultry Raising S-4 (Breeding)
Rural Sociology S-1 (Social and Economic Problems)
Fruit Growing S-10 (General course in Fruit Growing)
or
Forestry S-1 (Woodlot Management)

Electives

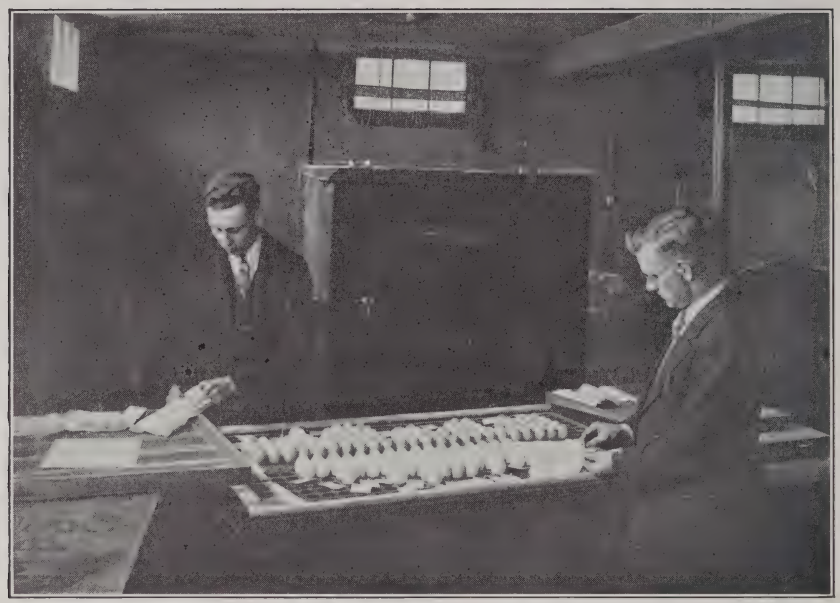
Physical Education S-4

Spring Term

Farm Management S-2 (Continuation of Farm Management S-1)
Poultry Raising S-5 (Managing the Poultry Farm)
Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Soils and Crops S-3 (Field Crops)
Vegetable Gardening S-6 Principles of Vegetable Growing)
or
Veterinary Science S-1 (Animal Sanitary Science)

Electives

English S-3
Physical Education S-5 (Baseball)



Students Starting a Pedigree Hatch

Field Study of Tillage Implements

Poultry S-1. (Judging and Housing.) I.

This course embraces a study of the various economically important types and breeds of domestic fowl, judging for egg production capacity, and for exhibition quality. A visit to one Connecticut Valley poultry show may be required. This course also covers the principles and practices of constructing and equipping houses on a commercial poultry farm. Three hours for judging; two hours for housing.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Poultry S-2. (Incubating and Brooding.) II.

A study of incubation and brooding is made by means of the operation of standard incubators and brooders and through a consideration of basic principles. Students select and grade hatching eggs; complete a hatch in small incubators and run mammoth incubators for a period of time. Under supervision each student has charge of a brood of chicks.
2 class hours and the equivalent of 3 2-hour laboratory periods. Credits, 5.

Poultry S-3 (Feeding and Marketing.) I.

A study of the common poultry feeds, feeding principles and successful commercial farm practices. This course also covers candling and grading eggs, market classification of poultry and eggs, judging eggs, fattening, killing, picking, drawing, and judging of live and dressed market poultry. The general breeding and care of ducks, geese, squabs, and turkeys will also be included. Four hours for feeding; marketing and specialties two hours.
4 class hours and 2 2-hour laboratory periods a week. Credits, 6.

Poultry S-4. (Breeding.) II.

This course includes the study of the improvement of poultry by means of mass selection, "seed-plot" and pedigree methods of breeding. Students follow through each step of a pedigree hatch and assist in the selection of the breeders used at the college plant. Basic principles of heredity necessary for an understanding of good breeding practices are studied.
3 class hours and 2 2-hour laboratory periods per week. Credits, 5.

Poultry S-5 (Managing the Poultry Farm.) III.

In this course the following points are given special attention: lines upon which a well-organized poultry farm is developed, the general arrangement of plots and buildings, record keeping, accounting and advertising, and a study of surveys. A trip covering three or more days will be made to representative successful poultry farms. The expense per student is approximately $15-$20. This is required of each student taking the course for credit.
4 class hours and the equivalent of 1 2-hour laboratory period per week.
Credits, 5.

Poultry S-6 (General Poultry Raising.) I.

Poultry keeping as a national industry; its importance and geographical distribution; opportunities and possibilities in poultry culture in Massachusetts; principles of feeding; utility classification of fowl; incubation; the production of hatching eggs; the baby chick industry; and brooding and rearing. Practical exercises will be closely correlated with the breeds and varieties, studies of various types and sizes of incubators, brooders, and brooder houses. "Practical Poultry Management" by Rice and Botsford will be used as a text.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

NOTE.—Students who take course 6 must get permission from the Poultry Department to take advanced poultry courses.

Poultry S-7. (Physiology, Sanitation and Disease Control.) I.

This course aims to acquaint the student with the normal hygienic conditions under which our domestic poultry thrive best. Sufficient anatomy and physiology will be given to enable the student to distinguish between normal and abnormal conditions. The nature of disinfectants and external and internal anti-

septics will be stressed and the students made acquainted with the best usages both scientific and practical in conducting a sanitary program for disease prevention and control. A special effort will be made to link the sanitary, hygienic, and disease control problems with the so-called down-to-date practices in feeding, housing and general management.

2 class hours and 1 2-hour laboratory period a week. Credits, 3.

NOTE.—Every student in this course must qualify in tractor practice, milking, harnessing, and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put in placement training who has not satisfied these preliminary requirements.

FLOWER GROWING

Students who complete the course in flower growing are fitted primarily for work in commercial and private estate greenhouse establishments and retail flower stores. After gaining experience, such students may be able to start in business for themselves. With the courses in general horticulture they should also be qualified for positions on private estates, in parks, or in nurseries.

The offices and class rooms of the Department of Floriculture are located in French Hall. Of the two lecture rooms, one will accommodate 40 students, the other 90 students; a laboratory, equipped with slate-covered tables, will accommodate 40 students. In the basement of the building the department has a specially prepared room for bulb storage, a fertilizer and tool room, and a large room for general storage purposes.

The glass area of the department consists of approximately 20,000 square feet, divided as follows: French Hall, range of 7,200 square feet, a durable, practical commercial range, composed of palm and fern, sweet pea, carnation, rose, and students' houses; the old Durfee range of 7,400 square feet, devoted to the growing of decorative, conservatory and bedding plants and chrysanthemums; one house of 3,200 square feet suitable for propagating work and general plant culture; and approximately 2,200 square feet in cold frames and hotbeds.

In addition, the department has 2 acres of land used for summer culture of carnations, gladioli, dahlias, sweet peas and bedding plants; a perennial garden, an annual garden and a rose garden.

Flower Growing

First Year

Fall Term

Agricultural Opportunities S-1 (Required of women students)
Business Law S-1
Flower Growing S-1 (Garden Flowers and Bedding Plants)
Horticulture S-1 (Propagation of Plant Materials)
Soils and Crops S-1 (Soil Management)
Vegetable Gardening S-1 (Principles of Vegetable Growing)
*Physical Education S-1
Physical Education S-3 (Hygiene—required of men students)
Tractor Practice

Electives

English S-1 (Required of students having less than two years of High School)
Home Economics S-5 (Home Furnishing)
*Physical Education S-1 is required of men students not participating in football; also required of women students)

Winter Term

Applied Mathematics S-1
Business Law S-2 (Continuation of Business Law S-1)
Flower Growing S-2 (Greenhouse Construction and Heating)
Flower Growing S-8 (Greenhouse Management and Propagation)
Horticulture S-2 (Plant Materials)
Soils and Crops S-2 (Fertilizers)
Physical Education S-2 (Required of women students)
Teaming and Harnessing

Electives

Home Economics S-2 (Foods)
Physical Education S-4 (Basketball and Hockey)

Spring Term

Six months' placement training.

Second Year

Fall Term	Winter Term	Spring Term
Agricultural Engineering S-2 (Motors)	Business Management S-1 (Fundamentals of Business Management)	Business Management S-2 (Continuation of Business Management S-1)
Flower Growing S-3 (Commercial Production)	Flower Growing S-4 (Commercial Production)	Flower Growing S-5 (Conservatory Plants)
Flower Growing S-6 (Flower Arrangement)	Horticulture S-12 (Care of Plant Materials)	Flower Growing S-7 (Herbaceous Plants and their Uses)
Fruit Growing S-10 (General course in Fruit Growing)	Horticulture S-13 (Plant Breeding)	Horticulture S-3 (Plant Materials)
Horticulture S-7 (Park and Estate Maintenance)	Rural Sociology S-1 (Social and Economic Problems)	Horticulture S-8 (Construction and Maintenance)
Physical Education S-2 (Required of men students not participating in Football)	Vegetable Gardening S-4 (Vegetable Forcing)	Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Electives	**Electives**	**Electives**
Physical Education S-3 (For women)	Physical Education S-4	English S-3
		Physical Education S-5 (Baseball)

Flower Growing S-1. (Garden Flowers and Bedding Plants.) I.

This course is intended for students who will take up private estate work or who will specialize in floriculture. It will include a study of the annuals, biennials, herbaceous perennials, and bedding plants which are commonly used in commercial floriculture and in private estate work. Methods of propagation, culture and uses will be considered. Laboratory exercises will include work in propagation, planting, study of materials, and planning of beds and borders.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Flower Growing S-2. (Greenhouse Construction and Heating.) II.

This course will take up the origin, growth, and importance of the floriculture industry; development of the greenhouse; types of houses and construction; methods of greenhouse heating. Trips are taken to visit greenhouse establishments in the vicinity of Amherst at a total approximate cost of two dollars. Textbook: White's "Principles of Floriculture."
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Flower Growing S-3. (Commercial Production.) I.

Courses S-3 and S-4 will be devoted primarily to a consideration of the important commercial crops. Special attention will be given to the culture (under glass) of roses, carnations, chrysanthemums, violets, and sweet peas. Other cutflower crops and various potted plants will also be considered. All members of the class are required to take a one-day trip to visit a large commercial greenhouse establishment at an approximate cost of five dollars each. Textbooks required during the two courses will be: Holmes, "Commercial Rose Culture"; and Smith, "Chrysanthemum Manual."
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Flower Growing S-4. (Commercial Production.) II.

A continuation of Flower Growing S-3.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Flower Growing S-5. (Conservatory Plants.) III.

A study of the plants, both foliage and flowering, which are used in conservatories and in decorative work. Methods of propagation, culture, uses and identification of plants will be included in the work. Trips are taken to visit the conservatories at Smith and Mount Holyoke colleges at slight expense.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Flower Growing S-6. (Flower Arrangement.) I.

A study of the principles underlying the use of flowers in funeral designs and sprays, table decorations, corsages, vase, bowl and basket arrangements; decorations for public functions; study of color with regard to such work. Limited to students who are majoring in floriculture. Textbooks: White, "Principles of Flower Arrangement"; Harry, "Manual of Floral Designing".
2 class hours and 2 2-hour laboratory periods a week. Credits, 4.

Flower Growing S-7. (The Uses of Herbaceous Plants.) III.

This course is a continuation of Flower Growing S-1 and is intended for students specializing in floriculture and general horticulture. It provides opportunity for a more detailed study of many of the plants considered in the preceding course, with special emphasis on their uses in gardens and in other types of landscape planting. Lectures, assigned readings, study and identification of plants, planning of borders and gardens. All members of the class are required to take a one day trip to visit nurseries and perennial gardens at an approximate cost of five dollars each.
3 class hours and 1 4-hour laboratory period a week. Credits, 5.

Flower Growing S-8. (Greenhouse Management and Propagation.) II.

A study of the principles and management of greenhouses, including soils, fertilizers, watering, ventilation, temperature regulation, insect and disease control. The methods of propagation of florists' crops will be taken up in detail.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

NOTE.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

FRUIT GROWING

This course is arranged to give the student a sound practical knowledge of fruit growing and allied subjects. Graduates who are capable and experienced have advanced rapidly to positions of responsibility in some of the larger orchards of New England, and the demand is active for good men in that field.

Some graduates of this course have gone into business for themselves, establishing successful orchards of their own, or pruning, spraying and otherwise caring for a number of small orchards, the owners of which are not prepared to do their own work. Still others are packing house foremen or are engaged in some other marketing activity. The fruit-growing industry of New England is developing rapidly and the opportunities are excellent for good men who are well trained.

Practical work in the orchards under expert supervision is emphasized where possible. It is intended to familiarize students with the best methods that have been devised by experiment stations and leading fruit growers for the production and marketing of high quality fruits under New England conditions. The Department of Pomology has about fifty acres of fruits easily accessible from the classroom, and the orchards are used freely for purposes of instruction. All the common tree fruits and small fruits are grown here on a commercial scale. Many experiments and demonstrations are in progress in the plantations, offering an exceptional opportunity to the student.

A good equipment is maintained of the principal types of orchard tools and machines. Such implements as sprayers, nozzles, pruning saws, pruning shears, ladders and cultivators are available in great variety for study and trial by students.

Fruit Growing

First Year

Fall Term

Agricultural Opportunities S-1 (Required of women students)
Business Law S-1
Fruit Growing S-1 (Apple Orcharding)
Poultry Raising S-6 (General Course)
Soils and Crops S-1 (Soil Management)
Vegetable Gardening S-1 (Principles of Vegetable Growing)
*Physical Education S-1
Physical Education S-3 (Hygiene—required of men students)
Tractor Practice

Electives

English S-1 (Required of students having less than two years of High School)
Home Economics S-5 (Home Furnishing)
*Physical Education S-1 is required of men students not participating in football; also required of women students)

Winter Term

Agricultural Engineering S-2 (Motors)
Agricultural Engineering S-4 (Repair of Farm Equipment)
Agricultural Engineering S-7 (Farm Structures)
Business Law S-2 (Continuation of Business Law S-1)
Fruit Growing S-2 (Minor Tree Fruits)
Fruit Growing S-3 (Pruning)
Soils and Crops S-2 (Fertilizers)
Physical Education S-2 (Required of women students)
Teaming and Harnessing

Electives

Home Economics S-2 (Foods)
Physical Education S-4 (Basketball and Hockey)

Spring Term

Six months' placement training.

Second Year

Fall Term

Agricultural Economics S-1 (Farm Economic Problems)
Beekeeping S-1
Fruit Growing S-4 (Small Fruits)
Fruit Growing S-5 (Harvesting and Packing)
Horticulture S-13 (Plant Breeding)
Horticultural Manufactures S-1
Physical Education S-2 (Required of men students not participating in football)

Electives

Physical Education S-3 (For women)

Winter Term

Agricultural Economics S-2 (Marketing)
Farm Management S-1 (Farm Management and Accounts)
Fruit Growing S-6 (Storage and Marketing)
Fruit Growing S-7 (Fruit Pests)
Rural Sociology S-1 (Social and Economic Problems)
Animal Husbandry S-6 (General Course)
or
Horticultural Manufactures S-2

Electives

Physical Education S-4

Spring Term

Beekeeping S-2
Farm Management S-2 (Continuation of Farm Management S-1)
Fruit Growing S-8 (Spraying)
Fruit Growing S-9 (Problems in Orchard Management)
Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Vegetable Gardening S-7 (Commercial Vegetable Gardening)
Soils and Crops S-3 (Field Crops)
or
Horticultural Manufacturers S-3

Electives

English S-3
Physical Education S-5 (Baseball)

Fruit Growing S-1. (Apple Orcharding.) I.

This course covers the planting and development of apple orchards and the management of bearing plantations to produce high grade fruit. Sites and soils and the best methods for laying out orchards are discussed along with the best methods of setting trees to insure a good start. The handling of young trees to bring them into early profitable bearing is given special attention.

The culture of bearing apple orchards is studied in detail to give an understanding of the factors that influence yield and quality of fruit. Methods of soil management are discussed with the adaptation to common soil types and with reference to their advantages and limitations. The experimental plots afford exceptional opportunities to study cultural methods and many subjects are discussed in the orchards.

3 class hours a week. Credits, 3.

Fruit Growing S-2. (Minor Tree Fruits.) II.

While the apple is and will continue to be our principal tree fruit crop, other

tree fruits will always be important here and the well trained man should know how to care for them. This course deals with the planting and care of peaches, pears, plums, cherries and quinces.

3 class hours a week. Credits, 3.

Fruit Growing S-3. (Orchard and Vineyard Pruning.) II.

Fruit plantations may be damaged more by unintelligent pruning than by mismanagement in any other single operation. If the orchardist does not know that apple trees bear on spurs, he is likely to cut them off in pruning, and so reduce his chances for a crop. If he is ignorant of the fact that the peach bears on last year's wood, he may remove most of this wood, and incidentally most of his crop. This course aims to give the student a thorough training in the theory of pruning and the methods of bearing of the different fruits.

At the same time, every student is required to prune in the college orchards and vineyards until he becomes reasonably proficient with each kind of fruit.

1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Fruit Growing S-4. (Small Fruits.) I.

While orcharding will always be the leading phase of fruit growing in Massachusetts, there are many unusual opportunities for success in growing the various small fruits. This course deals with problems of establishing and handling successfully plantations of strawberries, raspberries, blackberries, currants, gooseberries, and grapes.

The college has large plantations of most of these fruits, so the student has ample opportunity for a wide range of practical work. The aim is to make the course of the utmost practical value, as well as to give the scientific principles on which practices are based. Each major student must be prepared to take a trip to one of the fruit sections of the northeastern United States, at a cost of $15 to $25.

3 class hours a week. Credits, 3.

Fruit Growing S-5. (Harvesting and Packing Fruits.) I.

Handling the crop to the best advantage is one of the most important things in successful fruit growing and one which too often is badly managed because the fundamental principles are not understood. The proper time for harvesting is discussed in this course as well as the most satisfactory methods to insure a maximum storage season.

Particular attention is given to packing apples in boxes and barrels, and practice is continued under supervision until the principles are mastered. Many other packages are packed and studied also in relation to the movement of the New England apple crop.

The preparation of fruit for exhibition purposes and the judging of fruit are also considered in this course.

1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Fruit Growing S-6. (Storage and Marketing.) II.

The principles of common and refrigerated storage are considered in detail in this course and storage house construction under New England conditions is discussed, with a critical examination of several storages in use on or near the campus.

The competitive position of New England in the apple market is studied in relation to market demands and attention is given to export markets and to cities outside of New England. Modern methods of marketing are considered with special reference to developing local markets and to co-operation in handling New England apples.

3 class hours a week. Credits, 3.

Pruning Raspberries

Learning to Spray

Fruit Growing S-7. (Fruit Pests.) II.

Before spraying can be done intelligently, the fruit grower must have an understanding of the life histories of the principal pests for which the spraying is done. This course is concerned with development of insect and disease pests, and particular attention is given to the vulnerable points in their life cycles, at which control measures are directed.

3 class hours a week. Credits, 3.

Fruit Growing S-8. (Spraying.) III.

In this course a careful study is made of modern methods of spraying. All the principal spray materials are studied, and the student is given practice in their preparation for use and in applying them to the orchard.

The department is well equipped with modern spraying apparatus, from bucket pumps to large power outfits, and students are required to study the construction of these pumps, and to operate them in the orchards.

Spraying is very properly regarded as one of the most important operations in connection with growing fruit, and it is the aim of this course to train students to recognize the work of our common orchard pests, to prepare the proper materials for their control, and to apply them efficiently.

1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Fruit Growing S-9. (Problems in Orchard Management.) III.

This course provides an opportunity to focus placement training experiences and information acquired in previous courses on the major problems of the New England fruit grower. It is the aim of the course to familiarize the student with conditions under which fruit must be grown here, with current thought on the more important recent developments, and with the sweeping adjustments which are being made in the fruit industry of the Northeastern States.

3 class hours a week. Credits, 3.

Fruit Growing S-10. (General Course in Fruit Growing.) I. II.

This course is intended to meet the needs of students in the Animal Husbandry and Poultry majors who cannot devote more than one term to the subject of Pomology. It deals with the practical side of the growing and marketing of fruits. Special attention is given to such questions as selection of site for plantation, choice of varieties, grafting and budding, spraying, pruning, cultivation and cover crops, fertilizing the fruit plantation, packing and marketing.

3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

NOTE.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

GENERAL HORTICULTURE

The object of this course is to train men for positions as superintendents or foremen on parks or on private estates, or as foremen for landscape gardeners, or for private practice in horticulture service, including so-called tree surgery, city forestry and golf grounds.

Ample classrooms and laboratories with necessary equipment are provided for all work that must necessarily be done indoors. The extensive college campus with its stretches of lawn, its plantings of trees, shrubs, and vines, its drives and walks, furnishes an outdoor laboratory where the student will be brought into personal relation with problems comparable in every way with those that arise in the management of a park, private estate, etc. Work with various types of horse power, motor power and hand machinery and implements will give him practical knowledge of their use, care, and application. A growing nursery furnishes opportunity for the propagation and culture of those plants used in ornamenting grounds, the transplanting of these about the grounds in compliance with prepared landscape plans, and their subsequent care, including proper methods of pruning.

Horticulture

First Year

Fall Term

Agricultural Opportunities S-1 (Required of women students)
Business Law S-1
Horticulture S-1 (Propagation of Plant Materials)
Horticulture S-10 (Golf Course Maintenance)
Soils and Crops S-1 (Soil Management)
Vegetable Gardening S-1 (Principles of Vegetable Growing)
*Physical Education S-1
Physical Education S-3 (Hygiene—required of men students)
Tractor Practice

Electives

English S-1 (Required of students having less than two years of High School)
Home Economics S-5 (Home Furnishing)
*Physical Education S-1 is required of men students not participating in football; also required of women students)

Winter Term

Agricultural Engineering S-2 (Motors)
Applied Mathematics S-1
Business Law S-2 (Continuation of Business Law S-1)
Forestry S-1 (Woodlot Management)
Horticulture S-2 (Plant Materials)
Soils and Crops S-2 (Fertilizers)
Physical Education S-2 (Required of women students)
Teaming and Harnessing

Electives

Home Economics S-2 (Foods)
Physical Education S-4 (Basketball and Hockey)

Spring Term

Six months' placement training.

Second Year

Fall Term

Bacteriology S-1 (Bacteriology and Rural Hygiene)
Fruit Growing S-10 (General Course)
Horticulture S-4 (Principles of Plane Surveying)
Horticulture S-7 (Park and Estate Maintenance)
Horticulture S-9 (Golf Course Maintenance)
or
Fruit Growing S-4 (Small Fruits)
Physical Education S-2 (Required of men students not participating in football)

Electives

Physical Education S-3 (For women)

Winter Term

Fruit Growing S-7 (Fruit Pests)
Horticulture S-3 (Plant Materials)
Horticulture S-5 (Drawing and Mapping)
Horticulture S-12 (Care of Plant Materials)
Horticulture S-13 (Plant Breeding)
Rural Sociology S-1 (Social and Economic Problems)

Electives

Physical Education S-4

Spring Term

Flower Growing S-7 (Herbaceous Plants and their Uses)
Fruit Growing S-8 (Spraying)
Horticulture S-6 (Surveying and Plan Making)
Horticulture S-8 (Construction and Maintenance)
Horticulture S-11 (Golf Course Maintenance)
Rural Sociology S-2 (Continuation of Rural Sociology S-1)

Electives

English S-3
Physical Education S-5 (Baseball)

Horticulture S-1. (Propagation of Plant Materials.) I.

This course will present the principles of plant propagation with special reference to their application to plant materials in nursery practice.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Horticulture S-2. (Plant Materials.) II.

The object of this course is to learn to know the trees, shrubs and vines used in ornamental plantings with special consideration of their individual foliage characters.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Horticulture S-3. (Plant Materials.) II, III.

A continuation of Horticulture S-2, giving special consideration to distinguishing characters present in the dormant plants.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Horticulture S-4. (Principles of Plane Surveying.) I.

Outdoor practice in the use of simple surveying instruments, as tapes, com-

passes and levels used in the measurement of land surfaces. Lectures will include explanation of construction and theory of instruments.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-5. (Drawing and Mapping.) II.

This course deals with practice in elementary drafting, using various types of instruments and materials. Use will be made of the notes taken in Horticulture S-4, in the study of contour maps, grading plans, house lots and gardening problems. Practice will be given in the reading and interpretation of typical maps and plans.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-6. (Surveying and Plan Making.) III.

In this course there will be an application of the methods studied in Horticulture S-4 and S-5 to the mapping of small areas, house lots, garden and park areas, road and walk construction, staking out areas from plans, grading work and simple garden construction problems.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-7. (Park and Estate Maintenance.) I.

The work of this term will deal with construction and maintenance of roads and walks, especially such roads as are typical to parks and estates, proper foundations and drainage being emphasized; systems of cost keeping for parks and estates and actual cost records analyzed; relationship between superintendent and laborer; and the entire problem of lawn grass seed, illustrated by growing plots of the more common varieties. Throughout the term there will be laboratory exercises pertinent to the typical fall problems.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-8. (Construction and Maintenance.) III.

In addition to the routine spring problems special emphasis will be made upon the proper cultural methods for lawn building and maintenance. A careful study of all equipment will be made this term.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-9. (Golf Course Maintenance.) I.

While this course will not teach golf course designing, the fundamentals of good designs will be carefully studied particularly as they effect maintenance. Fall maintenance problems will be practiced and studied. (The course is designed for those horticulture students who give major consideration to Golf Course Maintenance; others will take Fruit Growing S-4.)
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-10. (Golf Course Maintenance.) I.

The identification of grasses in turf will be required, and the effects of fertilizers on various grasses will be studied. This course is designed to give the fundamentals of turf culture.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-11. (Golf Course Maintenance.) III.

The students will be required to do experimental work in turf diseases and pest control. Fertilizer results will be further considered and managerial duties studied. A field trip is a part of the required work of this course.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Horticulture S-12. (Care of Plant Materials.) II.

This course deals with the care of woody ornamental plants under the following heads; planting, pruning, maintenance of soil fertility, winter protection and tree-surgery.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Horticulture S-13. (Plant Breeding.) I, II.

This course considers the origin of cultivated plants, the problems and methods of the plant breeder in the improvement of horticultural varieties, and some of the basic principles of inheritance on which plant improvement is based.
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Excursions.

For Horticulture S-7, a one-day excursion to estates in Berkshire County. Estimated cost $5.00.

For Horticulture S-11, a two-day excursion to the eastern part of the state visiting golf courses and greenskeepers. Estimated cost $15.00.

These excursions will be required.

NOTE.—Every student must qualify in tractor practice; and in harnessing and teaming, single and double. Arrangements for practice periods and examinations by special assignment. No student will be put on placement training who has not satisfied these preliminary requirements.

VEGETABLE GARDENING

The business of vegetable growing is one of the leading types of agriculture in Massachusetts. Middlesex County is surpassed in the value of vegetables grown for sale by only four other counties in the United States. The value of vegetables grown for home use in Massachusetts is more per farm than in any other State in this country. The vegetable greenhouse district around Boston is one of the largest in the United States, and the only district growing head lettuce under glass. The Massachusetts markets for vegetables are considered by many to be among the best, for we are further removed from the large vegetable trucking sections than other large centers of population, while our markets demand high-quality vegetables.

The two-year course in Vegetable Gardening is designed to prepare men to go into business for themselves as market gardeners, truck farmers, and greenhouse vegetable growers. For those whose principal interest may lie in other fields of agriculture the course has much to offer along the lines of special crops, often spoken of as cash crops. For those who wish to work for someone else this course offers training such that its graduates are being placed in responsible positions with commercial vegetable growers, seed growers, and on private estates.

The business of vegetable gardening may be undertaken with a limited outlay of capital, for the returns on the capital invested are quickly secured. Some vegetable crops mature in a very few weeks, thus enabling one to turn over his capital from one to three times per season. The nature of this business is such that one locates as near the market as possible, and because of the growth of our cities, vegetable growers, as a group, have profited much by an increase in land values.

The Vegetable Gardening Department has 10 acres of land, 3,500 square feet of greenhouse space, and 500 linear feet of hotbeds and cold frames. These are used to give the student thorough practical training in the fundamentals of vegetable growing, plant production, and vegetable forcing. The office, classroom and laboratory are located in French Hall.

Vegetable Gardening

First Year

Fall Term

Agricultural Opportunities S-1 (Required of women students)
Business Law S-1
Flower Growing S-1 (Garden Flowers and Bedding Plants)
Fruit Growing S-10 (General Course)
Soils and Crops S-1 (Soil Management)
Vegetable Gardening S-1 Principles of Vegetable Growing)
*Physical Education S-1
Physical Education S-3 (Hygiene—required of men students)
Tractor Practice

Electives

English S-1 (Required of students having less than two years of High School)
Home Economics S-5 (Home Furnishing)
*Physical Education S-1 is required of men students not participating in football; also required of women students)

Winter Term

Agricultural Engineering S-4 (Repair of Farm Equipment)
Agricultural Engineering S-7 (Farm Structures)
Business Law S-2 (Continuation of Business Law S-1)
Flower Growing S-2 (Greenhouse Construction and Heating)
Vegetable Gardening S-2 (Principles of Vegetable Growing)
Soils and Crops S-2 (Fertilizers)
Physical Education S-2 (Required of women students)
Teaming and Harnessing

Electives

Home Economics S-2 (Foods)
Physical Education S-4 (Basketball and Hockey)

Spring Term

Six months' placement training.

Second Year

Fall Term

Agricultural Economics S-1 (Farm Economic Problems)
Agricultural Engineering S-2 (Motors)
Beekeeping S-1
Fruit Growing S-4 (Small Fruits)
Horticultural Manufactures S-1
Vegetable Gardening S-3 (Systematic Vegetable Growing)
Physical Education S-2 (Required of men students not participating in football)

Electives

Physical Education S-3 (For women)

Winter Term

Agricultural Economics S-2 (Marketing)
Business Management S-1 (Fundamentals of Business Management)
Horticulture S-13 (Plant Breeding)
Horticultural Manufactures S-2
Rural Sociology S-1 (Social and Economic Problems)
Vegetable Gardening S-4 (Vegetable Forcing)

Electives

Physical Education S-4

Spring Term

Beekeeping S-2
Business Management S-2 Continuation of Business Management S-1)
Fruit Growing S-9 (Problems in Orchard Management)
Horticultural Manufactures S-3
Rural Sociology S-2 (Continuation of Rural Sociology S-1)
Vegetable Gardening S-5 (Control of Insects and Diseases)
Vegetable Gardening S-7 (Principles of Vegetable Growing)

Electives

English S-3
Physical Education S-5 (Baseball)

Vegetable Gardening S-1. (Principles of Vegetable Growing.) I.

Cultural practices employed in the growing of vegetables vary widely from place to place but the fundamental principles underlying these practices are everywhere the same. The lecture work in this course consists of a study of these principles with illustrations of their applications from a theoretical standpoint. The laboratory work consists of a study of the applications of scientific and practical knowledge to vegetable culture.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-2. (Principles of Vegetable Growing.) II.

The lecture work in this course is a continuation of that in Vegetable Gardening S-1. The laboratory work consists of a series of experiments on plant behavior. Problems on water requirements, plant nutrition, and the effects of various other factors on crop growth and yield are studied at first hand.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-3. (Systematic Vegetable Gardening.) I.

This course is designed to acquaint the student with the identification, nomenclature and classification of the standard types and varieties of vegetables; seed production and variety improvement work; sources of obtaining seed; exhibiting and judging of vegetables.
2 class hours and 2 2-hour laboratory periods a week. Credits, 4.

Vegetable Gardening S-4. (Vegetable Forcing.) II.

A study of (1) the geographical distribution of the greenhouse industry, and the part this phase of vegetable production plays in supplying our markets with fresh vegetables; (2) the underlying principles of plant production under glass and their practical applications; (3) economic factors in harvesting and marketing of greenhouse produce.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Vegetable Gardening S-5. (Control of Insects and Diseases.) III.

This course is intended to give the students majoring in vegetable gardening an understanding of the most common insects and diseases which attack vegetable plants and the most satisfactory methods for controlling these pests.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Vegetable Gardening S-6. (Principles of Vegetable Growing.) III.

This course is similar to course S-1 except that it is more comprehensive. The practical studies are limited chiefly to the crops with which this group of students is likely to have to deal.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Vegetable Gardening S-7. (Principles of Vegetable Growing.) III.

A knowledge of the principles underlying the commercial vegetable growers' problems is necessary before these problems may be satisfactorily solved. Weekly assignments dealing with specific problems as encountered in the vegetable growing business are worked out by the students. Organized trips through the Connecticut Valley and one trip through the market gardening section near Boston are required. This latter trip requires about three days and costs each student approximately fifteen dollars.
2 class hours and 1 2-hour outside laboratory period a week. Credits, 3.

RELATED SUBJECTS IN OTHER DEPARTMENTS

Farm Economics and Marketing

Instruction in agricultural economics is given with a view toward presenting the business side of economics of agriculture. The required course is divided into two parts given in separate terms. The approximate division of subject matter for each term is indicated below.

Agricultural Economics S-1. (Farm Economics Problems.) I.

The purpose of this course is to introduce students to the more important economic problems facing New England farmers. Increasing competition with other farm sections, long-time movements of farm prices and farm profits, farm credit, farm taxation, tariffs and other farm relief measures are some of the problems to be considered.
(See requirement for marketing trip below.)
3 class hours a week. Credits, 3.

Agricultural Economics S-2. (Marketing.) II.

This course deals largely with economic problems arising out of marketing farm products. Particular attention is given to marketing methods used in New England and to the comparison of local methods with methods used by farmers in

competing sections. Principles and methods of co-operative marketing used by successful co-operative associations are studied in detail in order to show how New England farmers may meet competition from associations in other sections, either as individual producers or as officers or members of local associations.

A two-day marketing trip to Boston or New York is required of all students in order to study at first hand the methods of handling products on the wholesale markets. This trip may be required in either term.

3 class hours a week. Credits, 3.

Agricultural Engineering S-1. (Farm Engineering.) I.

This course is intended to familiarize the student with the various types of farm implements, to teach him their operation and care, and give practice in the adjustment and repair of the mechanical equipment on the farm.

The various types of field implements are studied, and emphasis is laid on the selection of implements suited to New England conditions. The adjustment of machines is discussed and the student is given practice in setting machines for different field conditions.

Part of the course is given over to the repair of farm equipment. In this work part of the time is given over to blacksmithing and the balance to such exercise as soldering, babbitting and fitting bearings, lining up shafting, pipe fitting, threading bolts and nuts, and practice in tying knots and splicing rope. Farm implements are brought in and overhauled to give practical work in this line. In the limited time available it is not expected to make a blacksmith or mechanic out of the student, but it is hoped that the student will learn to know the tools used and get sufficient practice in their use so that he can make repairs on his own equipment.

Part of the course is given over to the study of water supply systems, including pumps, rams, and complete power systems. Farm-lighting plants are also studied, attention being given to selection, as well as care and operation. The principles underlying the practice of farm drainage are discussed, and practice is given in the use of simple leveling instruments for the purpose of accurately grading tile drainage ditches.

2 lectures and 3 2-hour laboratory periods a week. Credits, 5.

Agricultural Engineering S-2. (Farm Motors.) I, II.

This course deals with the gasoline engine as used for stationary work, automobiles, and tractors. Instruction is given by means of lectures and textbooks, and by operating and repairing stationary engines, automobiles and tractors. Special attention is given to overhauling and repairing.

3 2-hour laboratory periods a week. Credits, 3.

Agricultural Engineering S-3. (Carpentry.) I.

This course gives practice in the care and use of carpenters' tools through bench work, repair of farm equipment, and building construction. Small buildings are erected by the students to give practice in all the phases of house construction. Practice is given in the building of forms and in the mixing and placing of concrete. (Must be taken with Agricultural Engineering S-7.)

2 2-hour laboratory periods a week. Credits, 2.

Agricultural Engineering S-4. (Repair of Farm Equipment.) II.

The object of this course is to give practice in the handling of tools, which will help in the repair of farm machines and miscellaneous farm equipment. Practice is given in forging, including drawing and shaping iron and steel, welding and tempering edged tools, and general blacksmith's repairing. Exercises also include pipe fitting, soldering, splicing rope, belt lacing, and babbitting and adjusting bearings. Practice is given in the use of machinists' tools, such as cold chisel, file, taps and dies, drill press, and lathe. (Must be taken with Agricultural Engineering S-7.)

2 2-hour laboratory periods a week. Credits, 2.

Agricultural Engineering S-5. (Dairy Mechanics.) III.

This course is planned for men who are fitting themselves to take charge of dairy plants or allied lines of work. A study of steam boilers, steam engines, steam turbines, pumps, steam traps, line shafts, belting, electric motors, milking machines, and refrigeration plants.
3 class hours and 2 2-hour laboratory periods a week. Credits, 5.

Agricultural Engineering S-7. (Farm Structures.) I, II.

A study of the building materials commonly used in farm construction; details of construction and simple structural mechanics; the principle of design of such farm buildings as the dairy stable, hog house, horse barn, general purpose barn, poultry house, fruit and vegetable storage buildings, etc.

In the drafting room practice will be given in the use of drawing instruments, and instruction given in the fundamentals of drawing. Each student will have opportunity to design in complete detail one of the major farm buildings in which he is particularly interested. (Must be taken with Agricultural Engineering S-3 or S-4.)
1 class hour and 2 2-hour laboratory periods a week. Credits, 3.

Agricultural Opportunities for Women S-1. I.

An outline of the occupational progress of women with special attention to the vocational opportunities for women in agriculture and related fields.
2 class hours a week. Credits, 2.

Applied Mathematics S-1. II.

A careful study of fractions, decimals, percentage, ratio and proportions, powers, roots, denominate numbers and elementary mensuration. Especial attention will be given to methods of computation and to practical applications to work given in the Horticultural Department.
5 class hours a week. Credits, 5.

Bacteriology S-1. (Bacteriology and Rural Hygiene.) I.

In this course bacteria are studied as to types and reproduction, together with methods of dissemination, followed by discussions on these micro-organisms as related to man and his environment.

The work of the course will be divided into sections having to do with the study of the sanitary production and handling of milk, water and food and into a section having to do with the study of bacteria in terms of diseases of man and animal and the relationship to environmental factors such as air, humidity, food and personal hygiene. The sanitary production and distribution of milk is an important problem to a community and under the discussions pertaining to milk are to be considered various avenues of infections, methods of maintaining a sanitary production and how to establish suitable means for checking anything pertaining to contamination. Since water supplies are of special importance to man the construction of wells, cisterns, etc. will be considered briefly followed by discussions relative to contaminations and their consequences. The proper disposal of sewage offers a rural problem of no small importance. Therefore, in this course will be discussed construction and installation of septic tanks, together with the study of some of the bacteriological work to establish their efficiency. Work has been planned in this course to present some of the problems pertaining to the production and distribution of foods, special attention being given to preservation methods.

In the latter part of this course will be presented some problems associated with the disease of man and animal. Various disinfectants will be considered and some time will be devoted to a discussion on the use and preparation of serums for fighting disease.

The purpose of this course will be to acquaint the student with the importance of bacteria and the subject of bacteriology in agriculture, industry, the arts and the relationship of this subject to the health of man and animals.

3 class hours a week. (Poultry and Dairy Manufactures majors.) Credits, 3.
1 class hour a week. (Animal Husbandry majors.) Credit, 1.
5 class hours a week. (General Horticulture majors.) Credits, 5.

Bacteriology S-2. (Bacteriology and Rural Hygiene.) II.

This course is a continuation of Bacteriology S-1 and is required of students taking that course.

3 class hours a week. (Poultry and Dairy Manufactures majors.) Credits, 3.
5 class hours a week. (Animal Husbandry majors.) Credits, 5.

Bacteriology S-3. (Dairy Bacteriology.) I.

Bacteria and other micro-organisms are the responsible agents for changes which occur in milk, and for the contagion which sometimes causes disease. They are found in milk at times when leaving the udder, they get in with the dust and dirt while milking and they adhere to the dairy utensils which carry them over from one milking to the next. From the cow to the consumer there is the constant presence of these micro-organisms to contend with, on the one hand, and to foster on the other.

Many of these changes occurring in milk are undesirable, such as ropy milk, sour milk, bitter milk, tainted milk, etc. Many of these changes are encouraged as the ripening of cream for butter, of milk for cheese, of milks for milk drinks. The former are fought, the latter fostered.

Micro-organisms of typhoid fever, scarlet fever, diphtheria and other diseases find their way by means of milk to the consumer and produce epidemic forms of these diseases.

Much time is spent in making plate counts and interpreting results. The different bacteriological tests are studied, such as Breed and Methylene Blue. The proper use of these methods will quickly enable one to locate the source of trouble and check any further continuance.

It is evident therefore, that to handle milk and milk products safely it is desirable to know something of the agents which are the source of so much attention in the dairy. This indicates the nature of the substance of this course. This course is required of all students who elect dairying as one of their special lines of work.

1 4-hour and 2 3-hour laboratory periods a week. Credits, 5.

Beekeeping S-1. I.

This course and the one following comprise a general consideration of the biology of the honey bee and the elements of practical beekeeping. This includes the life history of the individuals and their relation to the colony, their structure, normal behavior and instincts which form the basis of practical beekeeping. The best methods of management, which will provide more productive colonies for greenhouse and orchard pollination, and honey production are studied. Consideration is given to the problems of marketing and control of bee disease. As far as possible, the work is made individual in the construction of equipment and manipulation of bees.

The problems of fall management and wintering are made the basis of this course while those concerning spring and summer management are covered in Beekeeping S-2.

2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Beekeeping S-2. (Beekeeping.) III.

This course is a continuation of Beekeeping S-1 and is required of students taking that course.

2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Business Law S-1. I.

Required for freshmen. To consist of a particular study of the contract, drawing, reading and interpretation with specific problem work. Commercial paper, torts, equity and personal rights presented by lectures during the course. Particular stress is placed on the reasoning process.

3 class hours a week. Credits, 3.

Business Law S-2. II.

Required for freshmen. Being a continuation of S-1 and dealing specifically with Sales, Agency, Master and Servant. Corporations, associations, and partnerships presented incidentally by lectures.
3 class hours a week. Credits, 3.

English Composition S-1. I.

Required for freshmen with less than two full years of high school preparation, or its equivalent; and elective for others. To consist of directed readings (one book or its equivalent per week); essay writing (one short essay, book report personal or business letter, or writing of a similar nature per week); and an oral presentation (a five minute address or talk on an assigned topic to be prepared for each week, and as many heard as time permits).
3 hours a week. Credits, 3.

English Composition S-3. III.

Required of seniors interested in dramatic presentation and elective for the rest. This course is in continuation of the freshman course; but lays particular stress on the drama and dramatic presentation. (All dramatic presentation endeavored by the Two-Year Course, or other short courses to be under the direction of the instructor in English Composition.)
3 hours a week. Credits, 3.

Farm Management S-1. (Farm Management and Accounts.) I, II.

The work in this course involves a study of farm records and accounts; cost of producing and prices of farm products; uses of capital and credit; types of farming, selection of crop and livestock enterprises; size, diversity and production as related to the successful farm business; farm layout and arrangement; economic use of labor, power and equipment; detailed analyses of both successful and unsuccessful farms, how the farmer should make adjustments to meet economic changes; and finally, a bringing together of the information gained and applying it to the successful organization of a farm business.

Actual farm records are used to illustrate the above points. The entire course is made as applicable and practical as possible. Farm experience and the keeping of a personal expense account during the period of placement training are prerequisites of this course.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Farm Management S-2. (Farm Management and Accounts.) II, III.

This course is a continuation of Farm Management S-1 and is required of students taking that course.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

NOTE.—Farm Management S-1 and S-2 are given in the fall and winter terms for students majoring in Dairy Manufactures and Animal Husbandry; in the winter and spring terms for students majoring in Poultry Raising and Fruit Growing.

Business Management S-1. II.

This course is designed primarily for students majoring in Flower Growing and Vegetable Gardening. It involves a study of records and accounts used by florists and vegetable growers; costs and prices; uses of capital and credit; house and store management; advertising; buying and selling; economic use of labor and equipment; general business trends as affecting the flower and vegetable business; how the florist and vegetable grower should make adjustments to meet economic changes; analyses of going concerns; and finally a bringing together of all the information studied and applying it to the successful organization of a business. The entire course is to be made as applicable and practical as possible.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Business Management S-2. III.

A continuation of Business Management S-1 and is required of students taking that course.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Forestry S-1. (Woodlot Management.) II.

A course in tending, harvesting, marketing, and renewing the forest crop, with particular reference to the problems of the farm woodlot. The instruction is mainly practical, and is conducted in the field, with a minimum of bookwork; but there is a constant emphasis upon the development of keen and imaginative observation, and the acquisition of the conservationist point of view. Opportunities for field work are varied and extensive. There are woodlots of several types on or near the campus, and students have the fullest use of the Mt. Toby Demonstration Forest, a 750-acre tract 7 miles distant, belonging to the college and managed by the Forestry Department.
2 class hours and 1 4-hour and 1 2-hour field period a week. Credits, 5.

Home Economics S-1. (Clothing.) I.

This course is based on the need of good judgment in the selection of clothing, both ready made and home made. It includes a study of fabrics, their cost, value, manufacture and suitable use; of ready-made and homemade garments; and of design, color and general appropriateness and becomingness of clothing. Some garments are made in the laboratory.

Estimated cost of materials used in laboratory $5.00-$10.00. (Offered in 1930-31.)
3-5 class hours a week. Credits, 3-5.

Home Economics S-2. (Foods.) II.

This course aims to teach wise food selection and methods of preparation which are attractive, but which conserve food values. The use of a few basic principles in food preparation and serving, and in meeting nutritional needs will be stressed. Special study will be made of the body needs of persons of different ages and activity, and of the choosing of foods to meet these needs.
3-5 class hours a week. Credits, 3-5.

Home Economics S-3. (Health and Home Nursing.) III.

In this course emphasis is placed upon personal hygiene as a means of maintaining and improving health in the home. This will include ways of living to prevent sickness, the care of the family in case of unavoidable sickness, and the right attitudes toward health. (Offered in 1930-31.)
3 class hours a week. Credits, 3.

Home Economics S-4. (Home Management.) II.

This course includes a study of the organizing and simplifying of methods of housekeeping; standards of living and family expenditures; the use of leisure time; family and community relationships. (Offered in 1930-31.)
3-5 class hours a week. Credits, 3-5.

Home Economics S-5. (Home Furnishing.) I.

This course emphasizes the importance of attractive surroundings in creating a happy home life. It aims to develop good judgment and right standards in the selection of home furnishings. The discussions include the basic principles of good design, the use of color, the treatment of walls, floors and windows, and the choice, cost and arangement of all types of furnishings found in the average home.
3-5 class hours a week. Credits, 3-5.

Horticultural Manufactures S-1. I.

The utilization of culls and low grades of fruits and vegetables is becoming a more important problem each year. Producers should be able to market their

whole crop at a profit. The general problems studied in this course will be: the manufacture of apple products from cull apples; the canning of all fruits and vegetables available at this season, together with the manufacture of their various products, such as jams, jellies, conserves, pickles, etc.

Students will be required to keep accurate costs of materials in all canning and manufacturing operations together with a record of methods used.

2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Horticultural Manufactures S-2. II.

This is a continuation of Course S-1. The preservation of small fruits together with the manufacture of their products; the evaporation of fruits and vegetables, and the manufacture of fruit syrups are the principal subjects studied. Prerequisite: Horticultural Manufactures S-1.

2 class hours and 3 2-hour laboratory periods a week. Credits, 5.

Horticultural Manufactures S-3. III.

This is a continuation of Horticultural Manufactures S-1 and S-2. The manufacture of maple products, fermented pickles, and the canning of spring vegetables will be the principal subjects studied. Students will be given opportunity to make special studies along the lines of their greatest interest. Prerequisites: Horticultural Manufactures S-1 and S-2.

1 class hour and 2 2-hour laboratory periods per week. Credits, 3.

Rural Sociology S-1. II.

Required for seniors. A study of the individual and his relationships and conflicts in society, particular note to be taken of rural society and its problems. Individual topics assigned and papers prepared.

3 class hours a week. Credits, 3.

Rural Sociology S-2. III.

Required for seniors. Specific problem study, individual topics assigned and papers prepared and discussed in class. Rural religion, 4-H Club work, extension service and experiment station work and their significance in the farm problem to be presented by specialists in the field.

2 class hours a week. Credits, 2.

Soils and Crops S-1. (Soil Management.) I.

Every agricultural interest is vitally concerned with the soil, its adaptations and its management for plant production. This course treats of the selection of suitable soils for the special purposes of agriculture, horticulture and floriculture, and with the management of soils with regard to moisture control, tillage, organic matter, soil bacteria, and soil acidity.

The laboratory work gives training in the use and interpretation of the maps of the U. S. Soil Survey and in tests of soil texture, organic matter and acidity. Practical field work will be given in judging the crop adaptation and value of soils, and field demonstration of the use of tillage tools on the college farm.

As a field project the student will be required to make a study of some farm, nursery or florist's plant. This project includes a survey of the soil conditions, and methods of soil and crop management, with analysis of the relation of the soil to the enterprise as a whole.

2 class hours and 1 3-hour laboratory period a week. Credits, 3.

Soils and Crops S-2. (Fertilizers.) II.

This course deals with the storage and handling of manure and its use in crop production, with the selection and use of lime materials, and with the economical purchase and use of commercial fertilizers. The interpretation of fertilizer analysis and guarantee will be studied. Special attention will be given to the newer concentrated fertilizer materials and to those produced from atmospheric nitrogen.

The laboratory work will give practice in identification of fertilizer materials, and in the calculation of fertilizer formulas, and preparation of fertilizer mixtures. A demonstration of the effect of the different fertilizer elements on plant growth will be carried out by the students in the department greenhouse.
2 class hours and 1 2-hour laboratory period a week. Credits, 3.

Soils and Crops S-3. (Field Crops.) III.

This course is planned to acquaint the student with the best and most successful practices of production and harvesting of field crops. Problems usually arising in connection with these practices will be studied. Special attention will be given to the hay crop, corn, potatoes, roots, and pastures. Field work with growing crops and laboratory work in the identification of seeds of grasses, clovers, weeds and small grains, in tests of purity and germination of seeds and judging of different types of corn and potatoes will be given. Before completing the course the student will be expected to know how to select varieties, test seed, prepare the soil, select and apply fertilizer, plant, cultivate, harvest and store the field crops important in Massachusetts.
2 class hours, and 3 2-hour laboratory periods. Credits, 5.

Veterinary Science S-1. (Animal Sanitary Science.) III.

Conservation of the health of animals is the keystone of successful animal husbandry. This course acquaints students with the essentials upon which the health of animals depends. In order that students may later guard the animals in their charge, attention is given to conditions favoring communicable and non-communicable diseases, and to prophylactic measures.
5 class hours a week. Credits, 5.

PHYSICAL EDUCATION

Women

All women students are required to take phyiscal education throughout the first year and may elect it with credit during the first and second terms of the last year.

Undergraduate women students are required to furnish a physical examination report from their family physician.

Physical Education S-1. I.

This course will include such outdoor sports as soccer, basketball, tennis and hiking.
2 class hours a week. Credits, 2.
Mrs. Hicks.

Physical Education S-2. II.

This course will include posture exercises, folk dances, and games.
2 class hours a week. Credits, 2.
Mrs. Hicks.

Physical Education S-3 and S-4. I-II. (Elective for seniors.) Credits, 2.
Mrs. Hicks.

Men

Required Courses

Physical Education S-1. I. Recreation.—For freshmen. Outdoor games.
The following outdoor games are taken up: Soccer, touch football, kick, and cricket. Men may elect football, golf, tennis, and track. The course aims to give every man the opportunity to develop sufficient control over his body to enable him to get pleasure from physical activities and to establish correct health habits.
2 laboratory hours a week. Credits, 2.

Physical Education S-2. I. Recreation.—For seniors. Outdoor games.
Includes the games of playground ball, speedball, and volley ball with the object of giving the men a fund of exercise material for use in after school days. Men may elect football, golf, tennis, and track.
2 laboratory hours a week. Credits, 2.

Physical Education S-3. I. HYGIENE.—For freshmen.

Lectures on personal hygiene including the physiological basis for sound health habits, the importance of the systematic planning of a student's daily program in order to provide the proper amounts of time for study with suitable periods of sleep, relaxation, recreation and sports; posture, appropriate types of exercise, proper nutrition, social adjustment, the necessity for frequent medical, optical and dental advice, sanitation and group health requirements.
1 class hour a week. Credit, 1.

Elective Courses

Physical Education S-4. II. RECREATION.—For freshmen and seniors. Basketball and Hockey.

Students electing this course must report regularly for the basketball and hockey squads. Credits, 2.

Physical Education S-5. III. RECREATION.—For seniors. Baseball.

Students electing this course must report regularly for the baseball squad. Credits, 2.

SHORT COURSES AT THE MASSACHUSETTS AGRICULTURAL COLLEGE

Short courses are based on the idea that the motive which inspires study is the most significant factor in study itself, and that this motive rises when the student himself realizes he faces a problem that calls for a solution. Therefore, there is no age limit. Enrolled in short courses are found the young and the old, the experienced and the inexperienced, the theoretical and the practical. In this grouping there is a value, since students learn from each other as well as from the instructors. Practically all Short Course students intend to make a direct application of the knowledge given. Hence the aim of Short Course work is to offer the largest amount of information and training in agricultural and horticultural lines in the shortest possible time. During the past twenty years Short Courses have served hundreds of students in this Commonwealth, and the demand for these courses in recent years has steadily continued.

THE SUMMER SCHOOL

The college has maintained a Summer School for the past twenty-one years. The Summer Course is intended for high school teachers, teachers of agriculture, instructors in home economics, and for students who wish courses in science, education, and horticulture. The course lasts six weeks, beginning about the first of July and continuing through the month to about the second week in August. All courses offered, if successfully completed, carry collegiate credit or graduate credit.

The following schedule of courses, offered in 1929, indicates the nature of the work:—

Principals and Methods of Teaching
History of the Philosophy and Practice in Education
Educational Psychology
Secondary Education
Special Methods in Teaching Vocational Agriculture
Tests and Measurements
The Employed Teacher of Agriculture
Vocational Education
Clothing
Home Management Problems
Child Care and Training
Teaching Home Economics
Advanced Entomology
Fresh Water Algae, Fungi, Liverworts, Mosses and Ferns
Public Health
Physiological Chemistry
Garden Flowers and Bedding Plants
Plant Materials
College Algebra
American Literature
Dramatic Presentation
Ibsen and the Contemporary Drama

THE TEN WEEKS' WINTER SCHOOL

The Winter School has been established for a number of years at the college, and has proved to be very popular with farmers, their wives, sons, and daughters, teachers, college graduates, and others. This school begins about the first of January. Courses to be offered in 1930:—

Soil Fertility
Field Crops
Types and Breeds of Live Stock
Live Stock Feeding
Animal Breeding
Farm Management
Farm Accounts
Farm Motors
Dairy Bacteriology
Animal Diseases
Vegetable Gardening
Poultry Raising Courses:—
  Incubation, Brooding and Marketing
  Feeding and Culling
  Poultry Breeding and Sanitation
  Poultry Housing, Management and Farm Organization
Fruit Growing Courses:—
  Tree Fruits
  Pruning Tree Fruits
  Spraying
  Small Fruits
  Harvesting and Marketing
Greenskeepers Course
Practical and Scientific Course for Florists
Horticultural Manufactures
Marketing Farm Products
Botany
Entomology
Rural Sanitary Science and Hygiene
Agricultural Opportunities for Women
Food and Nutrition
Textiles and Clothing
Health Education
Home Management
Dairying
Principles and Methods of Teaching
Special Methods in Vocational Agricultural Teaching
Agricultural Teaching Improvement Problems in Massachusetts

A series of special two-week courses in ice-cream making, butter making, milk testing, and market milk are offered. During the two weeks the student devotes all of his time to the work of the special course in which he has enrolled. The instruction lasts throughout the day from 8 to 5. These courses meet a very definite need in the State for those who wish instruction, but who cannot attend for a longer period of time, and who do not wish to take other subjects.

DIRECTORY OF INFORMATION

A. The College.

Those desiring college catalogues, the President's annual report, and other pamphlets giving full information relative to entrance requirements, courses of study, expenses, opportunities for student labor, and so forth, should address Robert A. Hawley, Secretary, Amherst, Mass.

All questions regarding admission to the college, either to the freshman class or to advanced standing, should be addressed to William L. Machmer, Dean of the College, Amherst, Mass.

B. Experiment Station.

The Experiment Station conducts investigations in as many lines of agricultural science and practices as its funds will permit. It has charge of the inspection of commercial fertilizers, commercial feeding stuffs, and milk-testing apparatus. Branch stations in cranberry and market-garden culture are maintained in other sections of the State.

The station considers the farmers' problems to be its problems, and desires to keep in touch with them.

Requests for bulletins reporting the results of experiments and inspections, and for other information on the work of the station, should be addressed to Fred J. Sievers, Director of the Experiment Station, Amherst, Mass.

C. The Graduate School.

Questions relating to courses offered leading to the degrees of Master of Sci-

ence and Doctor of Philosophy, admission and work required, should be addressed to Dr. Henry T. Fernald, Director of the Graduate School, Amherst, Mass.

D. The Extension Service.

Inquiries of a general nature regarding the work of the Extension Service, extension publications, or requests for new lines of work should be addressed to Willard A. Munson, Director of Extension Service, Amherst, Mass.

E. Short Courses.

For information concerning the Short Courses, the Stockbridge School of Agriculture, the Ten-Weeks Winter School, the Summer School, write or apply to Roland H. Verbeck, Director of Short Courses, Amherst, Mass.

THE LIBRARY OF THE
MAR 31 1931
UNIVERSITY OF ILLINOIS.

MASSACHUSETTS AGRICULTURAL COLLEGE

APPLICATION FOR ENROLLMENT
IN THE
STOCKBRIDGE SCHOOL OF AGRICULTURE

Name ..... Date.....

Home Address..... Street..... State.....

Present Occupation..... Age.....

School or College Attended:

Name of School.....

Place .....

Number of Years in High School.....

Indicate by a check mark the course in which you desire to register. Do not check more than one.

1. Animal Husbandry
2. Dairy Manufactures
3. Poultry Raising
4. Fruit Growing
5. Flower Growing
6. Vegetable Gardening
7. General Horticulture

References.—I am personally acquainted with the above applicant, and know.....to be of good moral character, industrious, studious, and physically capable.

1. Name..... Position.....

Address .....

2. Name..... Position.....

Address .....

(Two references are required, and should not be members of your own family. Your minister and your teacher, or a former employer, are desirable. These persons should sign the application themselves.)

Mail this blank to ROLAND H. VERBECK, *Director of Short Courses*

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.

Certificate of Citizenship

The Massachusetts Agricultural College charges a tuition fee of $60 a term to students who are not residents of Massachusetts. In order to satisfy the college authorities that an applicant is entitled to state tuition of $20 per term, they require a statement signed by the clerk of the city or town in which the applicant resides, certifying to the fact that the (father, or guardian of the applicant or student, if of legal age) is a legal resident of said city or town. Such a statement may be made on the form below. If this is not presented when the student registers, the Treasurer has no option but to collect tuition on the above basis.

To the President of the Massachusetts Agricultural College.

This is to certify that on the date specified below, ...

.....

is a legal resident of .....

Signed.....

Date.....

(Seal)

Mail this blank to ROLAND H. VERBECK, *Director of Short Courses*

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.